

AMERICAN NURSERYMAN

The Nurseryman's Forte: To Make America More Beautiful and Fruitful

DECEMBER 1, 1941

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Confusion in Viburnums
Selling Tree Expert Services
Annuals for Neighborhood Nurserymen

Editorial

CHRISTMAS EVERGREENS.

Many nurserymen have discovered in recent years that they could have a part in the extensive business of furnishing decorative greens for the year-end holidays, dealing either direct with the public or furnishing the cut material which florists use. One decided advantage in favor of the nurseryman is that he may be able to supply cut greens and berried branches of unusual character, which garden club members may especially desire in order to make up an arrangement of something different, or which the better class florist will pay a little extra for on the same account.

Time was when nurserymen advertised, "Buy a live Christmas tree," but this did not bring a profitable volume of business. A potted or cut evergreen kept in the warm dry atmosphere indoors over the holidays is not likely to thrive when put in a hole in frozen soil outdoors later. The chances of survival were not good enough to warrant the much higher price, as contrasted with that of a larger tree from the wilds which was burned afterward. Even the suggestion of selling a tree, evergreen or deciduous, to be a gift from one member of a family to another and planted with a ball of soil in the home ground at an appropriate time, did not produce much response.

But nurserymen have found that old overgrown trees furnished large quantities of cut branches and probably would bring more than the tree could be sold for, aside from transplanting costs. When the overgrown trees are gone, there are crowded blocks to be thinned, or else inferior or crippled specimens which might be cut up for sale of the branches.

Some demand exists for the small potted tubbed specimens. Perhaps more seedling evergreens could be used in Christmas arrangements, if florists were given the suggestion that they might replace some of the succulent plants in pot arrangements at this season.

Some nurserymen with suitable locations have gone into the retail business at Christmas, buying holly,

mistletoe, cones, roping, etc., from other sections to offer a complete stock. This may call for more of a staff than other nurserymen have or care to engage for the Christmas season.

But in that event, it is easy to engage the attention of local florists and arrange to supply them from the material you may have available on the place—and it is surprising what they will jump for in the way of the unusual. They have something different for their customers, and you have an opportunity to do some cleaning up.

BUILDING AT A DISCOUNT.

The increased federal income, excess profit and defense taxes provide a business problem, not alone in the payment of the taxes, but in the determination of policies that may control the amount. A corporation of any size will pay from thirty per cent upward on its 1941 profits and in all likelihood a larger percentage on 1942 net income.

The management of such a corporation may determine the policy that will legitimately affect tax payments. One may curtail services, postpone purchases of equipment and otherwise reduce expenditures so as to increase the net profits; at the same time, the federal taxes will be increased.

On the other hand, one may properly employ such help as will add to the long-time efficiency of the business, repair and replace needed equipment and make such other expenditures now that will stimulate sales in the long run. Such a course will result in smaller immediate profits and a lower tax bill.

Such a course does not necessarily deprive the government of the income it needs to obtain through taxes. Government income is influenced by the volume of general business and by the national income. A dollar saved in taxes now and invested in building your business may produce a couple of dollars for the tax collector at a time when the post-emergency depression, if and when it comes, will make the added government revenue more necessary.

Many nursery firms need to build up their markets, to do missionary

The Mirror of the Trade

and promotion work and to advertise to the trade or to the public, depending upon their type of business. Such work is a long-range project. It is building business. Money spent for these things is a business expense, in the tax sense, but a permanent investment for the company's sake.

In current issues of national magazines are seen full-page advertisements of companies now devoting all or most of their resources to the production of defense material. They have little or nothing to sell at the present time. But they realize that their name and prestige should be maintained meanwhile because competition for business will be keen later. Besides, they are thus able to build business now at a discount.

For each \$1,000 that a firm adds to its advertising budget, net profits will be reduced from \$500 to \$700, the balance being the taxes otherwise paid. Thus the advertising will be obtained at a discount of from thirty to fifty per cent, depending upon the rate paid on the highest tax bracket into which your net profit would otherwise run.

In a field where sales promotion and stimulation of public good will is so much needed as in the nursery industry, this possibility of building business at a discount should receive special consideration by corporation managements. There is no nursery firm, large or small, which is not working on a limited advertising program. To increase this, at a bargain price, would seem a sound move.

THE twenty-seventh annual meeting of the Western Nut Growers' Association will be held at Salem, Ore., December 2 and 3. L. R. Pearson, Beaverton, Ore., is president and O. T. McWhorter, Corvallis, Ore., is secretary-treasurer.

YOU can increase the interest of your employees in your business by giving them a simple Christmas gift, and one they will appreciate throughout the year—a subscription to the American Nurseryman. Superintendents and foremen, especially, can add to their efficiency by reading the magazine at home in leisure hours. A suitable gift card will be sent if requested in your order.

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Your Salesman Is Well Received

Your salesman is welcome—is invited—is paid to come!

He is well introduced—in good company—vouched for.

He calls when the prospect is not busy—is given full attention.

He reaches nearly 4,500 prospects—so is sure to make enough sales to please you.

That is, if your salesman is an advertisement in the American Nurseryman.

Enclosed check to cover our invoice and one more insertion of our advertisement. We have been very well pleased with results from our eds.—Heasley's Nurseries, Butler, Pa., October 19, 1941.

Confusion in Viburnums

By Leon Croizat

About ten years ago the department of parks of one of the cities on the Atlantic seaboard let out bids for the delivery of *Viburnum molle* and *Viburnum dentatum* to be used in the landscaping of playgrounds, parks and other public projects. The successful bidders delivered thousands of plants, most of which were accepted as coming fully within the requirements of the contracts. I had something to do at the time with the inspecting of this material and was at first surprised to find out that few, if any, of the lots turned in included *Viburnum molle*. Even the common and cheap *Viburnum dentatum* was furnished with a considerable admixture of other species. Having made inquiries at the proper sources, I was told that the names *Viburnum molle* and *Viburnum dentatum* had been specified in the bids merely as a "suggestion" of the kind of shrub which the department of parks wished to use. Naturally, nobody could dream of rejecting the material on the mere technicality that the plants delivered were not the species demanded. Since the work on the projects had to go on, with or without *Viburnum molle*, the deliveries should go through on schedule. On this basis I endorsed the material, and the planting went on as smoothly as the bids themselves had been taken up. To this day the shrubs used on that occasion thrive as a living token of the disregard that practical plantmen entertain of botanical niceties.

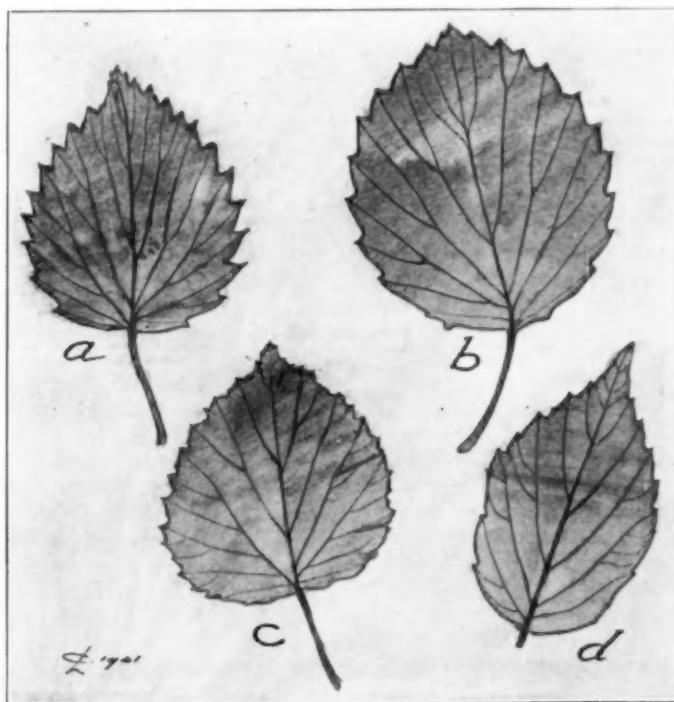
It would be obviously unfair to blame a nurseryman or a landscape architect for his occasional disregard of "true botanical names." In all too many cases the proper use of botanical names requires the consideration of factors that have slight practical importance. The constant changes of names taking place even for standard stock do not encourage anybody but the specialist to lose his time in finding out what is the latest nomenclature news. Furthermore, plants which a professional botanist accepts as evidently coming within the limits of the same species may not look quite alike when planted side by side. It is well known that

Whether they had the correct name on their viburnums has been on the mind of more than a few conscientious nurserymen. This help toward correcting labels and listings, from an expert in plant identification at the Arnold Arboretum, will be welcome to many.

the same species often happens to cover numerous forms and that habit and foliage, which are the two characters that count most for the horticulturist, are not necessarily of primary interest to a professional botanist. Difficulties crop up in time, however, when laxity in effecting a reasonable standardization of the material around the approved botanical names makes it possible for the seller to deliver and for the buyer to accept plants that blossom at different times, have different kinds of fruits and generally behave in different manners. To remind the reader how

deeply a standardization of horticultural material may cut through the lines of botanical and commercial practice, I have but to mention *Tilia tomentosa* and *Tilia petiolaris*. Here are two lindens which to a botanist appear, at the best, like weak varieties of the same species and are generally confused in the market. Yet these two plants cannot be mixed at will in formal planting. Sooner or later their differences stand out like a sore thumb simply because, say what one may, *Tilia petiolaris* is not the same tree as *Tilia tomentosa*. This is where botany and horticulture have a joint interest in standardizing the stock and in using correct names in a manner acceptable to all concerned. Names, like trade-marks, have a cash value.

For reasons that soon will be apparent to the reader, it is hopeless to anticipate an early standardization of the names *Viburnum molle* and *Viburnum dentatum* in the trade. All I may attempt to do in these



Smear imprints of leaves of: (a) *Viburnum dentatum*, (b) *Viburnum pubescens* var. *Canbyi*, (c) *Viburnum molle*, (d) *Viburnum Rafinesquianum*. The leaves shown do not give a true indication of the relative size current on material of the species named.

brief notes is to point out the reasons why public and private planting requiring these shrubs may suffer from "viburnum trouble."

The fact is that under the names *Viburnum molle* and *Viburnum dentatum* the trade offers at least five species: (1) The true *Viburnum molle*; (2) the true *Viburnum dentatum*; (3) *Viburnum pubescens*; (4) *Viburnum Rafinesquianum*; (5) *Viburnum scabrellum*. Of these species *Viburnum pubescens* is probably the most variable in cultivation, because it consists of forms and varieties that are surprisingly unlike to the eye of everyone but the professional botanist. In our part of the country deliveries contracted under the head of *Viburnum molle* and *Viburnum dentatum* usually consist of *Viburnum pubescens* var. *Canbyi* and a mixture of sundry forms of *Viburnum pubescens* and *Viburnum dentatum* to the total exclusion of *Viburnum molle*. I am not informed at first hand of what takes place in other states, but I have a well founded suspicion that any odd local product, including the little known *Viburnum bracteatum*, is delivered when *Viburnum molle* and *Viburnum dentatum* are asked for.

The acknowledged inability of the trade to distinguish in every case among these shrubs is not the only source of confusion in their identification and practical use. Just now another source of confusion looms large. A reliable botanist has recently discovered that the specimen originally labelled *Viburnum dentatum* is not at all *Viburnum dentatum* such as we understand it today. Linnæus, the father of modern classification, gave the name *Viburnum dentatum* to the plant which we have accepted to this day as *Viburnum pubescens* var. *Canbyi*. Thus, to straighten up the matter in a manner that is acceptable to scientific classification, *Viburnum pubescens* var. *Canbyi* will eventually have to be rechristened *Viburnum dentatum*, and the merry-go-round of the names is bound to spin yet awhile to the annoyance of everybody concerned, botanists and horticulturists alike. Anyone referring from now on to *Viburnum dentatum* will have to specify whether he is using the "old" or the "new" name, if he wishes to avoid being misunderstood.

Since it is my purpose merely to give a brief outline of the current

state of affairs concerning *Viburnum molle* and *Viburnum dentatum*, hoping to contribute something to the standardization of the stock in the trade, I accept here as a body the names used today by the best horticultural authorities, leaving it to the future gradually to take care of itself and eventually to shift the labels where they properly belong. For the present the reader of this article needs to be put on his guard against the promiscuous use of the names *Viburnum dentatum* and *Viburnum molle*. These names are actually meaningless. When the correct name is desired for material that is being collected for delivery or is being grown in the nursery for prospective sale, the thing for the practical plantsman to do is to have the material verified by competent botanists, submitting for their study specimens in fruit. I wish to emphasize that the fruit must be had before an iron-clad determination can be returned. Some plants can be determined from their flowers, others from their leaves, some even from their bark, but the viburnums of this description can best be told from their berries. A single fruit is in this case worth a bushel of carefully picked and preserved flowers and leaves.

I frankly doubt whether the nurserymen who carry *Viburnum molle* on their lists in our part of the country have actually seen this plant at all. With us, this viburnum is as scarce as a hen's tooth, and the cultivated specimens I have so far met with between New York and Boston can be counted on the finger tips. The true *Viburnum molle* looks much like *Viburnum dentatum*, but has larger leaves on the whole and a much bigger berry, black and somewhat flattened. The bark on the mature canes shreds, which is not the case with the species allied with this one. *Viburnum molle* likes limestone and in its native range—that is, the regions from Indiana and Kentucky to Missouri—may grow to a fair size, attaining a height up to fifteen feet. It is perfectly hardy with us, and if I am to judge from the few specimens that I have seen, there is no reason why it should not be cultivated more extensively, if lime is furnished to the soil where needed.

Viburnum dentatum has a wider and more northern range than *Viburnum molle*. It thrives from eastern Canada to Minnesota and

Georgia. It is abundant in our part of the country, and it grows to form ultimately large, but not very tall clumps. It can be easily identified by two characters. The fruit is roundish, small, about one-fourth of an inch in size, neither flattened at the sides nor broader than long, blackish-blue to bluish, with a pronounced bloom, but not black. The leaf is fairly thin and has a characteristic soapy feeling, more pronounced in this species than in others with a foliage of similar texture.

Viburnum pubescens, the typical form, has leaves that are softly hairy underneath. This typical form is seldom cultivated, at least in our part of the country, but the variety *Canbyi* is as commonly planted as *Viburnum dentatum* itself. This variety grows to a comparatively large size, up to ten or fifteen feet, and thrives well even in poor soil. The fruit is usually slightly larger than that of *Viburnum dentatum*, but otherwise resembles it rather closely. The foliage, on the whole, is coarser than that of *Viburnum dentatum* and feels less smooth to the touch. This variety is the last one to bloom, and with us it is not yet out in the middle of June, when *Viburnum Rafinesquianum* is well in the fruiting stage and *Viburnum dentatum* is already past bloom.

Viburnum Rafinesquianum is still known to many botanists and horticulturists under its "old" name, *Viburnum affine*. Its native range is much the same as that of *Viburnum dentatum*, but it does not resemble this species either in foliage or in fruit. Its leaves are usually small, and the canes seldom grow higher than six or eight feet. It is not advisable to generalize about horticultural values in a country so large as ours, because the same plant may be desirable in one section and undesirable in another. I do not know how *Viburnum Rafinesquianum* behaves throughout its whole range, but in the northeastern states, at least, it seems to have limited possibilities as an ornamental.

Viburnum scabrellum is a tall shrub that is native to the eastern coastal plains, preferring sandy and alluvial grounds. It may easily be confused with the forms and the varieties of *Viburnum pubescens*, although it somewhat differs from them in the fruit and in details of the foliage. It is only occasionally

planted in this part of the country, but it is likely to be widely used in the southern states.

My notes are purposely brief and admittedly incomplete, but they reveal the fact, at least, that collected material of plants of this group is likely to include different forms and species, depending upon the state and the region of collection. It is plain that it is a serious mistake to confuse, for instance, *Viburnum Rafinesquianum* with *Viburnum pubescens* var. *Canbyi*. The latter is the plant to be preferred when unsightly buildings are to be screened from sight behind tall shrubbery. *Viburnum dentatum*, on the other hand, may be selected in preference to *Viburnum molle* when pleasingly colored fruits are a major consideration. In conclusion, a discriminating nurseryman should know at all times what he grows and be in position to give some measure of guarantee that he delivers material not altogether wide of the name.

To give the reader an idea of the foliage characteristic of the species of this group I have reproduced with the "smearing process" described in a previous issue (September 15, 1940) of this magazine the outline of fairly typical leaves taken from sev-



Samuel J. Rich.

eral shrubs which are cultivated here. The differences are evident. It should be remembered, however, that the foliage of these shrubs is likely to vary a great deal, the same cane often bearing leaves of different form under

the cluster of flowers and at the freely grown sterile tips. In *Viburnum Rafinesquianum* leaves may be found that are practically toothless. Correct identification, under the circumstances, cannot be made to depend upon the characters of the foliage alone, and the plant must be carefully studied before the name can be established with reasonable certainty.

OREGON OFFICERS.

The Oregon Association of Nurserymen embraces growers of the various horticultural crops in the state, bulbs and flowers as well as nursery stock. It works closely with the bureau of nursery service of the state department of agriculture, at Salem, and the Oregon agricultural experiment station, at Corvallis. One meeting a year is devoted to a program by the station staff.

Elected president at the October meeting, Armin M. Doerner, of Doty & Doerner, Inc., Portland, has experience well qualified to head such an inclusive organization. Born at Denver, Colo., in 1893, he graduated from Oregon State College in 1916, specializing in landscape architecture, which he taught at Kansas State College the following three years. For another similar term he was assistant professor of landscape architecture at Washington State College. In 1922 he joined the firm, then known as Doty & Dorris and doing a retail business, engaging in all phases of landscape design and construction. The firm name was changed to its present one on the death of Mr. Dorris, in 1926. Mr. Doerner took a leave of absence in 1933 and spent two years in the National Park Service, in Bryce and Zion parks, as recreational planner, and another two years in the Wasatch national forest. After he rejoined his firm in 1937, the corporation discontinued landscape work and has confined its efforts largely to the wholesale nursery business. He is married and has three children, a boy, 21, who is a senior in college; one girl, 18, and one, 16.

Moved up to the office of vice-president from that of secretary, which he has filled in the Oregon Association of Nurserymen and also in Portland Nursery Club for a number of years, J. E. French, Portland, well earned

the advancement by his faithful work in behalf of the association. He is well known to all the trade in and about Portland, having been in the landscape business there for some years.

Succeeding him as secretary, Samuel J. Rich is a native Oregonian, born at



Armin Doerner.

Salem. When he was 3 years old, his family moved near Orenco, and his schoolboy vacations were spent in the greenhouse and wrapping buds or budding for the Oregon Nursery Co. Shortly after graduation from Linfield College, at McMinnville, Ore., he became associated with his father, Chris Rich, and his brother, Amos, in the firm of Rich & Sons Nursery, Hillsboro, Ore., wholesale grower of nursery stock. For the past several years he has held offices in the Portland Nursery Club.

The treasurer is another young man in the wholesale line, Melvin K. Moller, of Moller's Nursery, Fairview. He was born in 1907 at Fairview, and soon after graduating from Benson Polytechnic School, Portland, he went to work for the Portland Wholesale Nursery Co., in its nurseries near Fairview. He has been connected with that firm in one way or another for the past fifteen years. After growing fruit trees for the company, he and his father, J. W. Moller, entered this business in partnership. In 1937 Melvin K. Moller returned to work for the Portland Wholesale Nursery Co. and since has had charge of the shipping and packing of stock for that company, while retaining an interest with his father in growing fruit trees. He is married and the father of two boys.

Let's Swap Ideas

OFFERS SEVERAL IDEAS.

Your "Let's Swap Ideas" column in the November 1 issue of the American Nurseryman is well worth while. I am offering some suggestions which you might find usable in that column.

Many times landscape nurserymen are called upon to suggest planting lists for a client who is establishing a pool. Since this problem is a little out of the line of the average nurseryman, he may have some difficulty in supplying a list or may turn over the job to someone else. I have prepared the following list ready to meet such a problem, and of course there are other uses it may have to the nurseryman:

PLANTS FOR INFORMAL POOL.

Hardy perennial forms for sections of pool.

a. Depth of approximately two inches (commonly classed as bog plants).

Sagittaria japonica flore-pleno, double-flowering Japanese arrowhead.

Nymphaea alba grandiflora, Japanese white lotus.

Radicula Nasturtium-aquaticum, water cress.

Iris versicolor, tall blue flag.

Acorus gramineus, dwarf sweet flag.

Caltha palustris, marsh marigold.

b. Depth of approximately six inches (commonly classed as shallow plants).

Typha latifolia, common cattail.

Pontederia cordata, pickerel rush.

Nymphoides peltatum, floating heart.

Peltandra undulata, water arum.

c. Depth of six to eight inches; cultured and planted in tubs.

Nymphaea (Castalia), selected varieties and assorted colors, hardy water lilies (not tropicals).

Surface floating plants, mostly seasonal and not winter-hardy.

Nymphoides indicum, water snowflake.

Eichhornia crassipes major, water hyacinth.

Pistia Stratiotes, water lettuce or shell flower.

Lemna minor, duckweed (hardy).

Ceratopteris thalictroides, water fern.

Salvinia brasiliensis, salvinia.

Underwater oxygenating plants, seasonal and not winter-hardy in still water.

(Planted in boxes or pots; set in bottom of pool).

Anacharis (*Elodea*) *canadensis*, waterweed.

Vallisneria spiralis, eelgrass.

Cabomba caroliniana, ostrich feather.

(First three will survive winter in slowly running water.)

Sagittaria sinensis, adder leaf.

(Tender, not winter-hardy).

Also, I find many homeowners desire to put in a small rock garden, possibly after the initial landscaping has been completed and shaded conditions are existent in the landscape. So I have selected a group of small,

This is the readers' own page, open to contributions of ideas which they have found worth while and hence should be of multiplied value if given to the trade at large. Have you something to swap in return?

hardy rock garden plants to fulfill this need, with a brief description of each.

Another perplexing problem I find general to landscape nurserymen is that of evergreens for shaded places. Often I have been asked the question, "What evergreens can I plant for re-landscaping use which will do well in the shade of my trees?" or "What evergreens will do well on the shaded north side of the house for foundation plantings?" As few of the juniper forms do well in shade, this is a perplexing problem. But the selection of the proper, shade-loving evergreens is one the nurseryman must meet, especially during these times when so much re-landscaping activity is evident. The problem is sectional or regional, of course, but I should like to see a forum established and landscapers prepare lists for the various regions. I proposed such a list and answered these questions recently on one of my radio broadcasts, applicable only to Kansas conditions, but some varieties are in more general use.

Here is another suggestion to landscape nurserymen, which I find some use to a great advantage: If a landscape architect is on the staff, let him prepare a portfolio of tracing-plates of his "personal" selections of the best, or suggested, designs and patterns for structural improvements, such as fences, trellises, patterns for brick and flagstone walks, bed edgings, gates and entry ways, pools, rock garden designs, pergolas, garden furniture, seats, fireplaces, drying yards, incinerators, garbage disposals, etc. These will be of help in serving a client particularly in landscaping a new residence. The client may be allowed to select his favorite design from several patterns and so help the landscape architect in preparing his plan. For a few cents spent in blue-

AMERICAN NURSERYMAN

printing, each client may be made to feel that he is getting a real service—quite a personal touch to this business of landscaping, as I feel it.

George M. Fisher.

GET CUSTOMER GOOD WILL.

In the interest of sales promotion and customer good will, I am writing about what I did last Christmas with a number of copies of the "Pronouncing Dictionary of Plant Names," which you publish and sell at quantity prices.

A copy of the following letter, individually typed, was sent to a selected list of customers and prospects with one of the dictionaries:

Dear Garden Friends:

In sincere appreciation of your interest in better gardens will you accept the enclosed booklet with my best wishes for the Christmas Season.

May I hope that this little book will prove a helpful reference as you widen your acquaintance with the many flowers and plants available for your garden.

As we welcome the coming of the New Year with its possibilities for re-creating a better world, may we feel that our gardens are an essential part in developing the spiritual poise and vision we shall all need. For the enjoyment of our gardens is truly unselfish, as their beauty is always best when shared.

May your garden bring you many added joys during the coming year.

MERRY CHRISTMAS!

Cordially,

Arthur S. Brooks,
BROOKS NURSERIES.

The results have been more than worth while! A number of recipients have gone out of their way to express their thanks, even to dropping me a note of thanks. "It will stay on my desk for a long time," said one. A garden club member said it was what she wanted, as she was giving a paper and wasn't sure of the pronunciation of some of the names she was using.

So—thanks for making available such a valuable builder of good will.

Arthur S. Brooks.

THE nursery operated by Jacob Postma, Moxee City, Wash., is being closed.

THE twenty pages of the October 31 issue of *Arnoldia*, a continuation of the bulletin of popular information of the Arnold Arboretum, was devoted to nut growing in the north-eastern states, by Dr. L. H. MacDaniels, of Cornell University. Particularly important is the discussion of climatic factors, while varieties and culture are likewise covered.

Selling Tree Expert Services

By Hilding Carlson

"The chances of getting an order are infinitely greater when the sales effort is put forth in terms of the prospect's own interests. It is not at all unusual to find that a sales effort is nothing more than a blunt solicitation for an order, at a price. As might be expected, in those cases, the going is likely to be rough and the result discouraging."

That comment was applied to selling tree expert services by Lester G. Bennett, president of Maurice L. Condon Co., Inc., White Plains, N. Y., and started a more complete discussion, which emphasized that spectacular selling and promotional methods are not only unnecessary, but actually are not advisable.

Tree experts, with nothing to sell but services, are regarded by the general public as professional men, rather than ordinary commercial firms. It is good business to develop this regard in a subtle way that does not approach an affectation. It does not require a vivid imagination to parallel work such as tree surgery, pruning, spraying, treating, feeding, bolting and bracing with the surgery and medicine of the doctors caring for human beings and animals. "Tree doctor" is by no means a facetious term when it is applied to the well trained and long-experienced men who care for trees. As in the parallel practices, there are those who acquired the term for themselves, almost suddenly, with little or no training, aptitude or experience to recommend them. It is encouraging to find that this latter situation has been called to the attention of some legislatures to prevent, legally, the misuse of titles like "tree expert."

As might be expected after thirty years of tree work, Mr. Bennett practices what he preaches. His first approach to a prospective tree care assignment connected with a new building job avoids any semblance of selling. A short letter, individually addressed and typed, stresses points of importance to the owner. The value of that thinking is found in a voluminous file of friendly and appreciative letters that have acknowledged his thoughtfulness.

System in selling adds greatly to the efficiency and volume of business of any enterprise. This account of the selling program of one successful firm in the tree expert field offers suggestions to those in the same or allied lines.

Second and third letters addressed to the prospects, as the work progresses, inject a little selling effort, but with restraint. Personal contacts are relied upon for the direct solicitations.

As soon as possible after the first letter has gone out, an inspection of the building site is made to become thoroughly familiar with the specific problems. An obvious knowledge of a prospect's property is soon reflected in a conversation and, there again, the professional and thoroughgoing approach has its value.

Before a personal call is made on a prospect, Mr. Bennett finds it helpful to try to make an appointment with him through a telephone call.

The possibility of awkward moments of explanations at the opening of the first personal call are eliminated by the interesting preliminary letters and a brief telephone conversation. Another telephone tactic that has proved its value on some specific types of prospects is to call the wife instead of the husband. Most often that brings the comment, "You will have to talk to my husband about that." And that is just what Mr. Bennett wants. Then he asks if it is permissible to call the husband at his place of business. In such cases, the logical opening for the second call is that it is being made at the suggestion of the man's wife, avoiding any curt cutoffs.

All personal calls are in terms of what should be done for the trees to obtain the most pleasant surroundings for the house.

A recent example of how the plan works for Mr. Bennett was the prospect who acknowledged the second letter in the series with the comment, ". . . interested in your method of



This sycamore, beside the Washington headquarters at North White Plains, N. Y., is 250 years old, according to professional estimates. Accordingly, it would have been of good size during the campaigns in this area during 1776, 1778 and 1781. Washington used it as his headquarters during those campaigns. It was of particular importance during the Battle of White Plains, October 28, 1778. The tree is 200 feet high and it has a base circumference of 33 feet, 9½ inches. This tree has been cared for by the Maurice L. Condon Co., Inc., White Plains.

doing business. At present, I'm not ready to go ahead with the tree work, but I shall get in touch with you when I am ready." Three days later, Mr. Bennett went to the site at what happened to be just the right time. The owner was there. The ensuing conversation was entirely advisory, with no question about "when do we start" or expense. A drive was located for greatest convenience and with every regard for the trees. The trees that needed care were discussed fully. With an intuitive feeling that it was not necessary to force the issue of an order at that time, Mr. Bennett prepared to leave. The owner then inquired about the probable cost of the work. It was acceptable to the owner, and inasmuch as he was thoroughly convinced of the capability of the firm, he gave the order for the work on the spot and said that it could be started at any time. It should be kept in mind that this prospect had written that he was not ready and that the tree man's subsequent visit showed no signs of wanting to change his mind on that point. But the apparently unselfish interest in the prospect's trees, supported by an evident knowledge of what needed to be done and how to do it, turned his decision from one of delay to one of immediate action. Since that time, the Condon organization has received letters of approval from that owner and has done other work for him.

In another, somewhat similar, instance a telephone call from an owner after he had received the first letter brought about an appointment to meet at the site of the new house. This owner prized his trees highly. He had planned to locate his house close to two large oaks. However, after explanation of the root systems, he decided to relocate the house twenty feet farther from the trees. This change avoided any harmful effect on the trees and, because of their size, did not disturb the planned setting for the house.

Mr. Bennett subscribes to Dodge Reports, the daily construction news service, for specific job information that will help him in his sales efforts. In many cases the first news about a job is issued while it is being contemplated, before an architect has been selected, thereby enabling Mr. Bennett to send early and strategic letters. Of course, he watches for subsequent news about the jobs that interest him, as they progress through the planning,

bidding and building stages. The professional approach to each prospect starts immediately after his job appears in the news service, for the specific information includes his name, present address, the address of the new job, the type of building, the approximate cost, the architect's name and address if one has been selected, the general structural features of the projected building, the current status of the work, what is scheduled for next consideration and the approximate date.

The Maurice L. Condon Co. was, in all likelihood, the first firm of tree experts to work for a public utility in the trimming of trees to avoid interference with the power lines and, at the same time, to protect the trees from injury. The first job for a utility was done in 1916 and since that time Condon crews have worked throughout the states east of the Mississippi. On one assignment in upstate New York a crew worked along a utility's lines continuously for two years. It is not unusual for a job to last six months. This long experience in a specialized field of tree work has developed what might truly be called "a diplomatic ability". Trimming rights are a factor in work on trees that are not owned by the utilities. The authority for granting those rights has not been standardized, and it is up to the tree men to get them from the local authority. That is not always so easy as it may seem.

This organization was founded by Maurice L. Condon, in 1910. Mr. Condon continues his active interest in the firm, but he is more closely identified with the Outpost Nurseries, Inc., Ridgefield, Conn., of which he is vice-president.

OBITUARY.

J. Roy West.

J. Roy West, landscape designer and member of the firm of Simonds, West & Blair, Chicago, Ill., died November 25, in the room in which he was born, 61 years ago, in his home at 948 Hubbard street, Hubbard Woods. Mr. West had been a landscape designer in Chicago since 1898. He designed portions of Lincoln park, and was a fellow of the American Society of Landscape Architects. He was unmarried. Surviving are two sisters, Mrs. J. R. Fletcher and Mrs. Harry Carpenter.

NOTES FROM A NURSERYMAN'S WIFE

Witch hazel, of suggestive name, is used by "well witchers" to find hidden water. The alcoholic extract of its leaves is supposed to be of medicinal value (grandmother used witch hazel and bay rum as a hand lotion—remember?). But perhaps the strangest characteristic of this strange plant is that it blooms in winter, producing its stringy-petaled flowers during any warm spell from late October to February. Call it the latest of autumn flowers or the earliest of spring flowers, it is all one to the witch hazel.

* * * * *

Half the fun of old herbals lies in the feeling of superiority which some old beliefs give us who live in the enlightened age. Who would think the belief that cotton was actually a live sheep growing on the stem of a plant would last for 400 years, for instance? The Germans called it "baumwolle" (tree wool), and the little sheep was believed to graze on the grass and plants which grew around it.

* * * * *

The dahlia has one of the most cosmopolitan backgrounds of any flower. With the plant originally from Mexico, a Swedish botanist named Dahl was the first person to introduce it. Napoleon's Josephine planted one of the tubers in her garden and would not permit it to be grown anywhere else. However, a visiting Polish prince bribed the royal gardener to steal some of the tubers, which spoiled the plant completely for Josephine. From that time on she refused to cultivate the dahlia.

* * * * *

After reading "Swiss Family Robinson" with the 13-year-old (and what a welcome relief their remote, wonderfully self-sufficient little isle is from today's headline news), we were not surprised to learn that Russell C. Westcott, plant explorer, has just returned from a trip to Central American jungles with samples of a gourdlike fruit that blows apart with a loud explosion when it's ripe and a melon that has meat like an orange, but tastes like a combination of muskmelon, papaya and pineapple!

Annuals for Neighborhood Nurserymen

By C. W. Wood

While discussing the subject of "Annuals for the Neighborhood Nurseryman" and giving the go-ahead signal for another article following that in the preceding issue, our editor had this to say: "It seems to me that the idea you have presented and the suggestions made in this article will be of help to many readers. Some nurserymen handle annuals now, while others talk about it, but fear the competition of the peddlers and grocery stores will take the profit out of it. By the selection of unusual plants and better varieties, I think that question can be answered." It may be that some experiences and observations along that line will be helpful.

Although I do not try to grow ordinary annuals and meet the prices of mass-production establishments that find outlets through all sorts of channels, I still believe that it can be profitably managed if one has the facilities and the efficient help needed for that kind of work. As in other kinds of mass production, every short cut known to the trade would have to be used and costs of production and distribution would have to be carefully figured before a selling price could be established. These matters are largely ones of observation on my part, because I have never felt inclined to enter the highly competitive field of pansies, English daisies, petunias, zinnias and others of that class, but I have watched two neighborhood nurserymen during recent years doing that very thing with every appearance of satisfactory profits. That is not, however, where the most profit is to be found in the culture of annuals, as I tried to show in the preceding article and shall now continue.

All the honeyworts that I have grown are interesting plants for the student and useful for the gardener. The best of the annuals appears to be *Cerinth retorta*, a plant up to twenty inches in height, with lovely bluish leaves, usually spotted white and brown or red-brown, and purple-tipped, yellow tubular flowers on the borage family pattern. Its big mounds of foliage are a season-long

Continuing the comments in the preceding issue, this experienced plantsman tells how annuals are a profitable addition to the stock of a retail nurseryman selling locally, affording a quick turnover and an easy supplement to perennial plant sales. By growing the less common varieties described here he may avoid cheap competition.

delight, and it is further enhanced by a long period of flower production. And best of all, it is perfectly easy and quite indestructible in a light soil in full sun. Unfortunately, seeds are not easy to obtain, especially since the war in Europe has cut off sources of supply there. But I notice that seeds of *C. major* are available here, and it is only a little less attractive, lacking only in foliage spots. As the plants of both kinds mentioned grow rapidly, they present a problem to the commercial grower. They should be started by the middle of April in this latitude to be ready for the bedding season, and that means they will be in 3½-inch pots when they are ready to sell and perhaps 4-inch will be needed.

On the other hand, the two little snapdragon-like plants from southwestern Europe, which botanists call *chænorrhinum* and gardeners generally know as *linaria*, are no trouble at all. They are not annuals, to be sure, though they are too tender for our northern winters, and so we treat them as annuals, or, if we prefer, as tender perennials. Two kinds, *C. glareosum* and *C. origanifolium*, are known to me, but there is scarcely enough difference between the two to justify handling both. They get up to eight inches tall at maturity, but in the meantime they have been blooming since they were three inches high, commencing in June from seeds planted in late March and continuing until snow. Their offerings are little snapdragons, pale lilac or lavender to purple, usually with white lips. Although somewhat deli-

cate in looks, the plants are perfectly able to take care of themselves in any sunny, well drained situation, and the latter at least self-sows here. If one's schedule makes it more desirable, cuttings may be taken in August and wintered in a protected frame. The cuttings may then be potted up in spring and handled subsequently in the ordinary way.

Several *chrysanthemum* species and at least one plant that is usually grouped with them, but is perhaps more properly classed as *matricaria*, deserve the attention of growers. One from northern Africa, *C. Mawii*, was given much publicity several years ago as a useful perennial for the rock garden. I do not know how much cold it can stand, but it is definitely not hardy here in northern Michigan and, judging from reports, it apparently is not reliable any place in the north. Consequently, the plant seems to have dropped out of sight. That is to be regretted, too, for it is a lovely useful thing if used as an annual. In the latter role, I like to sow the seeds in March and give two or three weeks outdoors before introducing them into heat. Perhaps an equally good or better plan would be to sow in autumn and store in a frame until wanted in early spring. As most growers know the beauty of its silvery-rose daisies, space need not be taken for that. While on the subject of *chrysanthemums*, I should like to call attention to a little Spaniard, *C. myconis*, which I mentioned with enthusiasm in this column years ago. Little need be reported now, except to remind interested growers that its little yellow daisies on plants to ten inches in height, for a long time in summer, hold definite value for the role under discussion.

How *Chrysanthemum inodorum*, or more properly *Matricaria inodora*, has escaped the attention of so many gardeners and growers is not easy to understand. That is especially true of its two double varieties, *Bridal Robe*, producing double white flowers on 18-inch plants, and *Snow Carpet*, yielding double white flowers, as much as two inches across,

on plants ten inches in height. They have the added beauty of lacy green foliage, a blooming period that covers the long season from June until heavy freezes and an amiable disposition that laughs at drought and neglect. Seeds germinate as readily as radishes, the plants grow without fussing and plants from April sowings commence to bloom in June. Unfortunately, only fifty per cent come fully double, yet, even so, they are so lovely and so useful (pot plants, bedding, cutting, etc.) that they deserve universal recognition.

Because of a long season of bloom, beautiful flowers and foliage, ease of culture and other desirable traits, several annual *Corydalis* species should find a place in our present enumeration. It is not necessary to go into details about their looks, except to say that they all carry the lovely ferny, sometimes glaucous, foliage of the genus; that their flowers, usually pink or yellow, or a combination of these two colors, are built on ordinary fumitory lines, and that they attract attention from all lovers of unshowy beauty. Species found useful in my trials include *C. aurea*, *C. lutea* and *C. sempervirens rosea*, and especially the latter. Unless one is sure about the viability of his seeds, fall planting in flats is advisable. Fresh seeds planted in February or March and brought into heat in April will give blooming plants at bedding time.

Gardeners who know enough about plants to be aware of the fact that the genus *Crepis* contains some weeds (spreaders and self-sowers) are not apt to be enthusiastic about anything bearing that name. Show them *Crepis rubra* (sometimes with the qualifier *rosea* attached) when it is bearing its pretty pink dandelions on foot-tall stems, which it will be doing from June onward from late March sowings, and a sale is made. It does well in poor light soil in full sun and is easy to grow from seeds. It has never made a nuisance of itself here.

There are great possibilities in annual delphiniums, not the larkspurs of gardens, but little known species which give an entirely different effect than those well known subjects. The Chinese delphinium, *D. grandiflorum*, is one of these, but needs no introduction here. It has a Himalayan form, *D. cinerea*, though, which not only blooms as quickly as the real Chinese, but also is a depend-

able perennial in light soil (I have plants 8 years old). Its flowers are spurless and of an entrancing shade of deep sky-blue. It commences to bloom within ten weeks or so of sowing and continues through the summer. Then there are *D. orientale* (it needs freezing to get good germination), with rich purple flowers on 2-foot plants, and *D. paniculatum*, another 2-foot beauty with blue flowers in graceful panicles over a long period. All are quite easy to handle in pots (*D. cinerea* especially so) until bedding-out time, and all are unusual enough to attract attention.

A little South African member of the figwort family, *Diascia Barberæ*, is one of the most charming annuals that I know; it is also one of the easiest of the half-hardy kinds. Why then, I often wonder, is it not more popular? Seeds (they are tiny and need care in their early stages of growth) planted about April 1 should produce blooming plants in June; so one can adjust the sowing time to meet his local needs. It makes little bushes up to a height of a foot or fifteen inches, sprinkled all over and through with little, 2-spurred, salmon-pink flowers all summer until frost. A good companion for it will be found in the tropical American figwort, *Alonsoa Mutisii*, seeds of which are sometimes offered in this country. The latter grows up to eighteen inches tall and produces typical figwort flowers, deep salmon-pink in color, over the same long period as the former. Both are easy in ordinary garden soil in sun, come readily from seeds and are amenable to pot culture.

Because the violet cress, *Ionopsis acaule*, needs a little more care (root moisture or a cool situation) than the average gardener likes to give his plants, I rather hesitated about including it here; yet it is so useful for large-scale planting among steppingstones, on paved terraces and in similar places and is, consequently, salable in large numbers to the more pretentious gardeners that it will be included. Two characters, a low mat of foliage and a continuous production of 4-petaled lavender flowers, make it desirable for the purposes named. It comes into bloom within two months of seed sowing and may be sold from 2-inch pots.

Several *linarias* of my acquaintance, including some of the reputedly

perennial kinds, such as *L. faucicola* and *L. glacialis*, would make useful items for nursery sales, and interested growers are well advised, I believe, when they are told to investigate this genus. But our present list would not be complete without special mention of *L. Broussonetii*, one of the neatest and best little annuals that I know. Imagine little mounds up to a height of eight inches completely covered with little, orange-lipped, black-spotted yellow snapdragons, not for a month or two, but from late spring until winter, and you have an inadequate picture of this worthy plant. It is so easy to grow that it may be sown in early spring where it is to bloom, and it is just as easy in pots until bedding time.

Although usually listed in catalogues as a perennial and sometimes as an annual, *Salvia argentea* is more or less biennial in its behavior here. It would, therefore, strictly speaking, have no place in this enumeration. I have, however, found it a splendid seller when handled along with annual bedders. The seeds are then started in March and handled like the others. It makes a big rosette of white woolly leaves, attractive in that state to all gardeners and lovely beyond compare as the rosette increases in size. The following year, if it has been given perfect drainage, it will throw up a tall spike (perhaps five feet), bearing quite showy flowers of various shades.

Although our space is exhausted, I should like to make brief mention of two unusual items which have proved to be good sellers here. One, *Schizopetalon Walkeri*, is a rather unshowy South American crucifer whose fortune is in its delightful night fragrance. It gets up to a foot in height and produces its fringed-petaled white flowers over a quite long season. The other, *Omphalodes linifolia*, a Portuguese cousin of blue-eyed Mary, of annual duration, is especially valuable because it does well in shade—a situation not often favored by annuals. White flowers on a gray-leaved shrublike plant of 10-inch stature are its offering. Both are easy to grow from seeds, easy in pots and easy in the garden.

JAMES PHIFER, formerly with firms at McMinnville, Tenn., has joined the wholesale staff of the Baker Bros. Nursery, Fort Worth, Tex.

Coming Events

ON THE CALENDAR.

The following list of meetings the coming winter includes those whose dates are known to have been set.

Secretaries of other state associations are invited to send announcement of date and place, so that it may be included in the next issue.

December 9 and 10, Minnesota State Nurserymen's Association, Lowry hotel, St. Paul.

January 6 to 8, Western Association of Nurserymen, Muehlebach hotel, Kansas City, Mo.

January 7 and 8, Ohio Nurserymen's Association.

January 9 and 10, Nebraska Association of Nurserymen, Capital hotel, Lincoln.

January 13 to 15, Illinois State Nurserymen's Association, Hotel La Salle, Chicago.

January 19 to 21, short course for nurserymen, landscape gardeners and arborists, Ohio State University, Columbus.

January 21 and 22, Indiana Association of Nurserymen, Antlers hotel, Indianapolis.

January 21 and 22, Oklahoma State Nurserymen's Association.

January 22, A. A. N. eastern regional meeting, with Long Island Nurserymen's Association, Garden City hotel, Garden City.

January 27 and 28, New Jersey Association of Nurserymen, Hotel Hildebrecht, Trenton.

January 28 and 29, Michigan Association of Nurserymen, Hotel Hayes, Jackson.

January 29, Oregon Association of Nurserymen, Heathman hotel, Portland.

February 17 and 18, short course for nurserymen, Purdue University, La Fayette, Ind.

PLAN OHIO PROGRAM.

The winter meeting of the Ohio Nurserymen's Association will be held at the Netherlands Plaza hotel, Cincinnati, January 7 and 8. The Cincinnati Landscape Association will act as host to the state organization, and plans are being made for a most helpful convention, states E. A. Smith, secretary of the local group.

The executive committee of the state association will meet with the local association in a special session January 6, at the hotel, for final arrangements.

The entertainment features of the meeting will be in the hands of the local association, which has a statewide reputation for successes in this field. The time-honored old-fashioned dinner will be held Wednesday eve-

ning, January 7. Dancing and entertainment will follow the dinner.

John Siebenthaler, vice-president of the state association, and his committee have promised a program of live and timely subjects. It has been the constant aim of the program committee to work out a schedule of such interest and importance that all nurserymen of the state will be attracted to the meeting.

A. L. Heger is chairman of the reception committee, Peter Cassinelli is chairman of the arrangements committee, and Carl E. Kern is president of the Cincinnati Landscape Association and active on all the committees.

WESTERN PROGRAM.

The program of the Western Association of Nurserymen, to be held at the Hotel Muehlebach, Kansas City, Mo., will open with a retail nurserymen's meeting, January 6, at 2 p. m., in the Trianon room. The schedule for the succeeding days is:

WEDNESDAY, JANUARY 7, 10 A. M.

Call to order, by President George W. Holsinger.

Roll call and introduction of members.

Reading of minutes of last meeting.

Appointment of committees.

Secretary-treasurer's report.

Introduction of new members.

Address of welcome, by President George W. Holsinger.

Plans for the A. A. N. convention and the Western association's part in financing, reported by Charles W. Williams, Kansas City, Kan.

WEDNESDAY, JANUARY 7, 2 P. M.

"Planning the Small Home Grounds," by S. Herbert Hare, landscape architect and city planner and president of the American Society of Landscape Architects, Kansas City, Mo.

"Middle West Orchard Situation," by T. J. Talbert, chairman of the department of horticulture and forestry, University of Missouri.

WEDNESDAY, JANUARY 7, 7:30 P. M.

Banquet for nurserymen and families; entertainment. "Design for Living, 1942," by H. Merle Smith, public relations expert, Kansas City, Mo.

THURSDAY, JANUARY 8, 10 A. M.

Wage and hour laws discussion, led by Edwin J. Stark and Richard P. White.

Committee reports: Resolutions, auditing, nominations and other committees.

Election of officers.

Provision has been made for trade exhibits. Those interested should write the secretary, C. C. Smith, Sherman Nursery Co., Charles City, Ia., for details.

MINNESOTA PROGRAM.

The sixteenth annual meeting of the Minnesota State Nurserymen's Association will be held December 9 and 10 at the Lowry hotel, St. Paul. The program follows:

DECEMBER 9, 9:30 A. M.

President's message, by Vincent Bailey.

Treasurer's report, by Harold Reid.

Appointment of committees.

"Making Rural Homes More Attractive," by Paul E. Miller, director of agricultural extension, University of Minnesota.

"The Nurseryman and the Entomologist," by Prof. A. T. Ruggles, state entomologist, University of Minnesota.

DECEMBER 9, 2:30 P. M.

"Agriculture and the Nursery Industry," by R. A. Trovatten, commissioner of agriculture.

"Forestry in Minnesota—Its Purposes and Its Hopes," by Henry S. Weber, state forester.

"New Interesting Developments in Regulatory Control," by Thor Aamodt, nursery inspector.

Report of nominations committee.

DECEMBER 9, 6 P. M.

Nurserymen's dinner. Harold Reid, chairman.

DECEMBER 10, 9:30 A. M.

Membership meeting, open to all members in good standing.

"The Tax Situation in Minnesota," by Senator M. J. Galvin.

"National Issues Affecting All Nurserymen," by Richard P. White, executive secretary, A. A. N., Washington, D. C.

Proposed method of charging for nursery inspection and the licensing of tree surgeons, nursery agents and spray rig operators, reported by the legislative committee.

DECEMBER 10, 2 P. M.

Meeting of Minnesota chapter of American Association of Nurserymen. Bj. Loss, secretary.

"Effects of War on Agriculture," by Dr. O. B. Jessness, chief of division of agriculture economics, University of Minnesota.

"New Fruits for Minnesota," by Prof. W. H. Alderman, chief of division of horticulture, University of Minnesota.

PLAN EASTERN MEETING.

The officers of the Long Island Nurserymen's Association and those of the Long Island chapter of the A. A. N. met November 14 at the Garden City hotel, Garden City, L. I., with Frank LaBar, vice-president of the A. A. N. and executive committee member from the eastern region, and Charles Hess, chairman of the eastern regional unit. Plans for the meeting of the eastern region for this coming winter were discussed.

It was decided to hold the meeting Thursday, January 22, at the Garden City hotel. The Long Island Nurserymen's Association and the Long Island chapter will be joint hosts to the region. Secretary R. P. White is scheduled to speak. This will be the

only meeting he will be able to attend in the region during the winter. President Edwin Stark is expected to be there, and attempt will be made to get Major Rodyenko, outstanding army camouflage expert, for the main speaker.

"We are going to invite those in the region to bring their wives," states G. Bradley Hart, secretary of the Long Island association. The Garden City hotel is an unusually attractive hotel in a beautiful setting, far enough from New York to be in quiet surroundings, yet close enough so that the members' families can conveniently stop in the city on their way home, the day after the meeting. This should be an attraction. There is also a hostess at the hotel to organize entertainment for the ladies. Room rates are \$3 and \$5.

DISPLAY GREENHOUSE.

The Westover Nursery Co., 7800 Olive boulevard, University City, Mo., has just added a store and dis-

play greenhouse to the range of greenhouses covering 50,000 square feet.

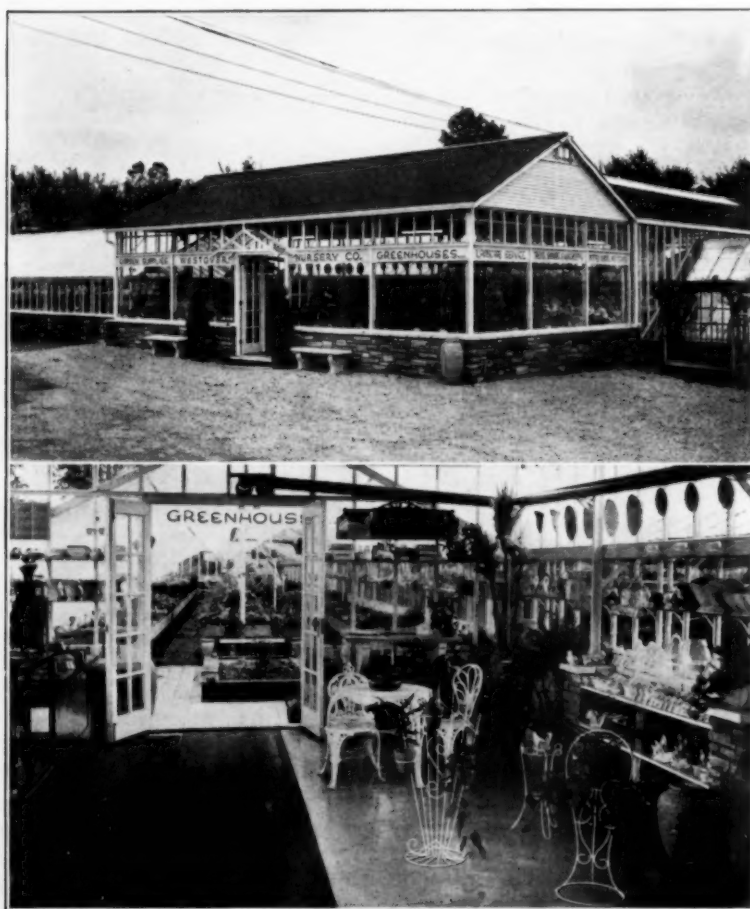
In the store is displayed a wide variety of novelty pots, some planted. A complete line of insecticides, fertilizers, grass seeds and other garden supplies is carried.

From the store one passes through double French doors into the display greenhouse, where there is an attractive pool, 5 x 20 feet, of black and white Italian marble.

The greenhouse attached to the store is used to display some of each variety of cactus, succulent, flowering or foliage plant suitable for planting novelty pots.

In addition to the greenhouses, the Westover Nursery Co. has sixty-one acres in University City and forty acres at Robertson, Mo. Both nurseries are devoted to the growing of a complete line of stock.

Arthur A. Guenther, president, and Henry W. Endres, vice-president and general manager, are enthusiastic about this improvement.



New Shop and Display House of St. Louis Nursery and Florists' Firm.

MEET AT PITTSBURGH.

The Western Pennsylvania Nurserymen's Association met November 21 at the Roosevelt hotel, Pittsburgh, holding an afternoon and evening session. Fifty members and friends enjoyed a fine meeting. The business affairs were handled promptly. New directors were elected as follows: Charles S. Zimmerman, Dale Schwab, Herman Busch, John C. Reagan, Herbert Hoechstetter, W. P. Morrow and L. E. Wissenbach.

Felix E. Held, secretary of the college of commerce, Ohio State University, spoke on selling, collecting and advertising.

Richard P. White, executive secretary of the American Association of Nurserymen, spoke on the present and future of the nursery industry. As usual, Mr. White answered in his superb manner the many questions asked by members.

Robert P. Meahl, assistant professor of nursery industry at Pennsylvania State College, spoke on trees and shrubs and illustrated his talk with colored slides.

Dr. Fred V. Grau, agronomist in the extension service of Pennsylvania State College, was a surprise guest and a welcome one. He was kept busy answering many questions.

L. E. Wissenbach, Sec'y.

MAY RESHIP ELMS.

Nurserymen within the area regulated by the quarantine for the Dutch elm disease will be able to reship to points outside the area elm trees that have been received from the nonregulated area, but only during the dormant period of the insect vectors, from November 1 to March 31, and with the provision that such plants be handled under conditions of sanitation and segregation prescribed by the inspectors.

The text of the order issued by P. N. Annand, chief of the federal bureau of entomology and plant quarantine, effective November 10, by which the provisions of quarantine 71, on account of the Dutch elm disease, are modified reads: "Elm plants originating in nonregulated area and received within the regulated area during the period from November 1 to March 31, inclusive, of any 12-month period may be reshipped interstate to nonregulated area during the period specified above when such plants have

HILL'S JUNIPER GRAFTS

More than three-fourths of our annual production of grafts have now been sold, mostly to customers who place their orders with us each season.

These are strong, vigorous grafts suitable for lining out in field rows. We will be sold out by about January 1, so we urge early placement of orders. Following assortment still available April and May delivery.

Prices \$28.00 per 100 — \$250.00 per 1000

25 of same variety and size at 100 rate; 250 at 1000 rate.

Juniperus chinensis pfitzeriana aurea (Hill Golden Pfitzer Juniper)
Juniperus chinensis pyramidalis blue (Blue Column Chinese Juniper)
Juniperus chinensis sargentii blue (Blue Sargent Juniper)
Juniperus chinensis sargentii green (Green Sargent Juniper)
Juniperus communis depressa, vase-shaped (Vase-Shaped Prostrate Juniper)
Juniperus japonica (Japanese Juniper)
Juniperus scopulorum (Chandler's Silver Juniper)
Juniperus scopulorum (Silver Glow Juniper)
Juniperus squamata meyeri (Meyer Juniper)
Juniperus virginialis, dark green
Juniperus virginiana burki (Burk Redcedar)
Juniperus virginiana cannarti (Cannart Redcedar)
Juniperus virginiana glauca (Silver Redcedar)
Juniperus virginiana pyramidiformis hillii (Hill Dundee Juniper)

Send for new fall wholesale catalogue now ready for mailing. Dealer's descriptive catalogue, 60 color plates of Evergreens, no prices shown, 50c per copy.

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DUNDEE, ILLINOIS

been handled under conditions of sanitation and segregation as prescribed by the inspector to prevent attack or infestation by insect vectors of the Dutch elm disease or accidental or natural infection by the fungus causing the disease. Such shipments of elm plants shall bear an identifying tag issued by the bureau of entomology and plant quarantine showing compliance with these conditions."

PICEA OMORIKA.

Picea omorika, the Serbian spruce, is considered by many plant authorities as the best of all the spruces for landscape planting. This statement would be especially true for many sections of the midwest.

It is native to southeastern Europe, where it is said to attain a height of 100 feet. It possesses a medium growth rate in the midwest and probably will attain a height of fifty feet or more at maturity. In habit of growth it is narrow pyramidal, with spreading branches upturned at their ends. The needles are comparatively flat, similar to those of the firs, glossy green below and with two white bands on the dorsal side. These white bands

show prominently on leaves on the upturned ends of the branches.

While the spruces, as a group, are more adaptable than the firs to variable soil and environmental conditions, the Serbian spruce does best in rich, well drained soil retentive of moisture. It will withstand smoke and dust better than the firs and most of the spruces, but still would not be advocated for congested city districts. It is hardy and subject to few pests. Propagation is from seeds. It is an excellent evergreen tree for specimen planting, and if it becomes more reasonable in price it might be used in mass plantings as screens.

L. C. C.

CHECK MACHINERY.

Checking nursery machinery and equipment for worn or damaged parts now is recommended, so that there may be no delay in spring if parts are needed.

A sharp reduction in the number of farm machines to be manufactured in 1942 makes it important to take care of existing equipment. Although the shortages of steel, copper and other metals mean that fewer new tractors and implements will be made,

ESTIMATING CHARTS

By JOHN SURTEES

The new Ready Reckoner for Tree Balls, Tree Pits, Lawns, Hedges, Excavation, Topsoil, Humus, Manure, Areas, Weights, Carloads, Truckloads and much other information.

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nurserymen may obtain repair parts for old machinery if they order them early. Because of the importance of agriculture to national defense, manufacturers will be allowed enough metals to produce repair parts.



Charlie Chestnut

"The Old Gray Mare Ain't What She Used to Be."



"Victoria's got 'em awful bad again this morning, Emil," I says to Emil one hot sultry day last August. "I'm telling you Emil that old mare has got the heaves so bad this A. M. I ain't got the heart to keep her on the cultivator."

I dropped down in the chair by Emil's desk where he was sitting there adding up his bills from last spring and fall. "Seven and four to carry—don't bother me now Chas.," he says, "can't you see I am busy with the office work?" Emil says as he kept on with his arithmetic.

"No use to add up, Emil," I says, "You know you ain't got anything on hand to pay off anyway. Another thing, Emil, if you would shed that winter underwear you wouldn't be going around all summer like you was sitting in a wet swimming suit."

"Chas. here is a statement from the East and West Nursery for \$42.00, what did we get from them this spring?"

"Wasn't this spring, Emil, that bill is for that asparagus from last spring, a year ago. That was for giant Washington, which you claimed turned out to be just runty, run out stuff. Now Emil, we got to do something about that old fossil of a horse. I took just one trip up and down the gooseberries and she sounds like a donkey engine at a lumber camp. When she drops dead I hope she has got consideration enough to fall over on the end of the row. By the time I hooked onto her with a half hitch around her middle to drag her out it would knock down at least 4 rows of gooseberries at \$4.00 per row is \$16.00. Why don't you give the old girl a break, Emil? There is 20 horses waiting their turn up at the fox farm that is in the prime of life compared with that old nag."

"Chas. if you have been listening to any tractor salesmen again, just get it out of your head. I've told you time and again, tractors is the ruination of nurseries. Give me a good horse everytime."

"What makes you think Victoria is a good horse? It ain't only the heaves either. There's that fetlock joint on her left front leg, that is apt to give out anytime again and you know

what happens whenever you put her on the stone boat to haul out them big maples, out goes her stifle joint again. Old Doc said the next time it goes out don't call him, but just unlimber that old goose gun at the old lady. You would be doing her a big favor."

"Chas. you ought to be ashamed to talk that way about old Victoria. That mare is a genuine full blooded Suffolk Punch. Her grandfather was imported from England."

"I'll bet he come over on the Mayflower or before," I says.

"Didn't I ever show you her papers, Chas., that come with her when I got her from old man Brewster?" Emil says.

He rummaged around in the bottom drawer and come up with a faded and torn piece of paper. "There is her papers, Chas. see that." He waved it in front of me with a big flourish. "Mariba Sue, by Bob Warren out of

Winnie May, Aug. 12, 1922." He took a good look at the paper again and squinted his eyes. "That can't be right, '22. Here Chas. is that '22 or '32, Chas?"

"'22 it is, Emil. No wonder the old girl is all in. She will be old enough to vote in the next election. She was an old nag when Brewster slipped her to you and that was 8 or 9 years ago," I says.

"He didn't slip me nothing on that deal, Chas. Brewster told me she wasn't any good on the heavy truck at the windmill factory, but she would be a good horse for many a day on the cultivator."

"She ain't no good horse for the cultivator anyway, Emil. She is a draft horse, or was one in her day. She weighs 1400 pounds and eats as much as a team of regular horses. What kind of a deal did you make with Brewster when you got her, Emil?" I says.

"It was Brewster's idea to trade, so he couldn't blame me," Emil said, leaning back in his chair with a far away look in his eyes. "I remember that deal well, Chas. At that time I had a beautiful Arabian gelding,

SPECIAL PRICES FOR DECEMBER

We offer the following list of vines in both lining-out and finished stock at these attractive prices during the month of December. Place your order now for your requirements for shipment any time up to April 15.

Terms: 60 days net to those who furnish satisfactory credit references, or less 10% discount and free packing for cash with order. See our fall trade list for other items or send your want list for special quotations. All stock guaranteed to be first-class and true-to-name.

SEE OUR ADVERTISEMENT IN THE NOVEMBER 15 ISSUE FOR OTHER ITEMS AT THESE ATTRACTIVE PRICES.

VINES AND CREEPERS

ARISTOLOCHIA TOMENTOSA. Dutchman's-pipe. Per 100 Per 1000		
1-yr., s., No. 1, 6 to 9 ins....	\$1.50	\$12.00
1-yr., s., No. 2, 3 to 6 ins....	1.25	10.00
BIGNONIA CAPREOLATA. Cross Vine. Evergreen, climbing to height of 50 feet; flowers in many clusters, yellowish-red, lighter within tubes. Hardy as far north as Massachusetts. Very attractive.		
2-yr., No. 1, l.o., 8 to 12 ins....	\$3.50	\$30.00
2-yr., No. 2, l.o., 4 to 8 ins....	2.50	20.00
BIGNONIA RADICANS. Trumpet Creeper.		
6 to 12 ins., 1-yr., s.	\$1.25	\$10.00
12 to 18 ins., 1-yr., s.	1.50	12.00
18 to 24 ins., 2-yr., tr., No. 1.	4.50	40.00
12 to 18 ins., 2-yr., tr., No. 2.	4.00	35.00
2 to 3 ft., 3-yr., tr., No. 1.	6.50	60.00
CELASTRUS ORBICULATUS. Oriental Bittersweet.		
12 to 18 ins., tr., br., No. 2....	\$4.50	\$40.00
18 to 24 ins., tr., br., No. 1....	5.50	50.00
2 to 3 ft., extra heavy	6.50	60.00
CELASTRUS SCANDENS. American Bittersweet.		
6 to 12 ins., 1-yr., s.	\$1.25	\$10.00
12 to 18 ins., 1-yr., s.	1.50	12.00
18 to 24 ins., 1-yr., s.	2.00	15.00
18 to 24 ins., tr., br.	5.50	50.00
2 to 3 ft., tr., br.	6.50	60.00
6 to 12 ins., c., fruiting	2.50	20.00
12 to 18 ins., c., fruiting	3.00	25.00
18 to 24 ins., c., fruiting	3.50	30.00
LONICERA JAPONICA HALLIANA. Hall's Japanese Honeysuckle. Per 1000 Per 10,000		
2 1/4-in. pots, well br.	\$40.00	.....
3-in. pots, well br. ....	.....	.....
Small lining-out	5.00	\$ 40.00
Medium lining-out	6.00	50.00
1-yr., tr., No. 1.	30.00	250.00
1-yr., tr., No. 2.	25.00	200.00
1-yr., tr., No. 3.	20.00	150.00
2-yr., tr., No. 1.	35.00	300.00
2-yr., tr., No. 2.	30.00	250.00
2-yr., tr., No. 3.	20.00	175.00
3-yr., tr., No. 1, heavy.	45.00	.....
VINCA MAJOR. Bigleaf Periwinkle. Per 100 Per 1000		
3-yr., tr., No. 1, 2 to 3 ft.	\$25.00	.....
3-yr., tr., No. 2, 18 to 24 ins.	20.00	.....
3-yr., tr., No. 3, 12 to 18 ins.	15.00	.....
VINCA MINOR. Common Periwinkle. Per 100 Per 1000		
Medium lining-out	\$0.60	\$ 5.00
Heavy lining-out ....	.80	7.00
1-yr., tr.	4.00	30.00
2-yr., tr.	5.00	40.00
2 1/4-in. pots	5.00	40.00
3-in. pots	7.00	60.00
WISTERIA CHINENSIS BLUE.		
WISTERIA CHINENSIS WHITE.		
1-yr., s., No. 1.	\$4.50	\$40.00
1-yr., s., No. 2.	3.50	.....
WISTERIA FRUTESCENS. American Wisteria. Good blooming variety.		
1-yr., s., No. 1.	\$4.50
1-yr., s., No. 2.	3.50

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**Azalea Kaempferi Carmen, Purple King,
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8 ins.	100
10 ins.	\$ 40.00
12 ins.	50.00
15 ins.	60.00
18 ins.	75.00
24 ins.	100.00

Berberis Julianae

10 to 12 ins., B. R.	15.00
12 to 15 ins., B. R.	25.00

Buxus Sulfurica (Dwarf Boxwood)

2 to 4 ins., B. R.	5.00
4 to 6 ins., B. R.	10.00
6 to 8 ins., B. R.	15.00

Cornus Florida (White Dogwood)

2 to 3 ft., B. R.	25.00
3 to 4 ft., B. R.	35.00
4 to 5 ft., B. R.	45.00
5 to 6 ft., B. R.	55.00
6 to 7 ft., B. R.	65.00

Cypripedium Bristol Fairy

3-yr.	15.00
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Hex Crenata Convexa

4 to 6 ins., B. R.	20.00
6 to 8 ins., B. R.	25.00

Hex Crenata Rotundifolia

8 to 10 ins., B. R.	25.00
10 to 12 ins., B. & B.	40.00
12 to 15 ins., B. & B.	50.00

Hex Opaca (American Holly)

2-yr., 8 to 10 ins., B. R.	10.00
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Hex Verticillata

18 to 24 ins., B. R.	10.00
2 to 3 ft., B. R.	15.00

Ligustrum Lucidum and Nobile

15 to 18 ins., B. & B.	60.00
18 to 24 ins., B. & B.	75.00

Ligustrum Ovalifolium (Calif. Privet)

2 to 3 ft., B. R.	5.00
3 to 4 ft., B. R.	7.00

Magnolia Kobus

2 to 3 ft., B. & B.	40.00
3 to 4 ft., B. & B.	60.00
4 to 5 ft., B. & B.	90.00
5 to 6 ft., B. & B.	125.00
6 to 7 ft., B. & B.	150.00

Mandarin Domestica

2-yr. Seedlings	6.00
12 to 15 ins., B. & B.	30.00
15 to 18 ins., B. & B.	40.00
18 to 24 ins., B. & B.	50.00
24 to 30 ins., B. & B.	60.00

Osmanthus Aquifolium

15 to 18 ins., B. & B.	75.00
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stood about 12 hands high. He was a sort of a strawberry roan with a cream colored mane and tail. He was a mighty pretty horse when I had him hitched up with my rubber-tired buggy. I picked up that buggy second hand at the horse show during the fair at Lake Park. I was known far and wide with that rig. I remember I was down to the depot sending a telegram one morning when Brewster went by and seen me. Emil, he says, I got a genuine Suffolk Punch, I would like to give a good home in the country, she is in prime shape, but she can't haul that heavy truck anymore at the factory. I could use that Arabian there to team up with one of my fancy riding horses. What kind of a deal would you make me, Emil, he says. You know how old Brewster was, Chas. Everybody knew he never give anything away, so I let on I wouldn't trade for love nor money. However, that Arabian had shown a touch of distemper, just a touch you know, and I was getting worried about him, so I made up my mind here was a good chance to unload. We traded horses right there by the depot and he threw in a good two-seated surry, you know that running gear we got on that old watering cart Chas., that is from the same old surry sitting out there in the corn crib right now. Brewster only had that horse about 10 days when one morning he called up raising hell over the phone. Emil, he says, that horse you traded me took a bad fit of distemper this morning and I had to do away with him. You told me he was sound in every joint. Well, Henry, I says, there wasn't nothing wrong with his joints was there, and furthermore that old plug you slipped me has got a terrible case of heaves and she is blind in one eye and don't see good in the other. Henry, I says, I didn't think you would take advantage of an old friend that way. After I told him all that was wrong with Victoria he hung up and never mentioned it again."

"I seen a two row cultivator tractor, Emil, that was a dandy, its got a power take off and a regular seat like a truck with a canopy over the seat. Sandy Bowers offered to bring it up for trial. One thing about a tractor, Emil, you don't have to put the hay into her if she ain't in use. This job will run all day on 4 gals. of gas Sandy said."

All the time I was talking Emil was rooting around in the bottom

SEEDS 1941 Crop

NOW READY FOR DELIVERY

Prices f. o. b. New York.

<i>Abies balsamea</i>	1/4 lb.	1 lb.
" nobilis	\$.50	\$1.75
<i>Acer dasycarpum</i>	1.25	4.50
" ginnia	.25	.70
" rubrum	.45	1.50
<i>Aesculus octandra</i>	.25	.70
<i>Aleurites fordii</i> , Tung-oil Tree	.25	.70
<i>Alnus maritima</i>	.50	1.75
<i>Ampelopsis quinquefolia</i> , d.b.	.45	1.50
<i>Arctostaphylos</i> , per 100 seeds	\$2.00	per 1000 seeds, \$15.00
<i>Aristolochia tomentosa</i>	.55	1.85
<i>Aronia arbutifolia</i> , d.b.	.35	1.25
<i>Azalea calendulacea</i> , c.s., 1/4 oz.	.06c	
" kaempferi, c.s., 1/4 oz.	\$1.00	
" mollis, c.s., per oz.	\$1.40	
" poukhanensis, c.s., 1/4 oz.	\$1.00	
" schlippenbachii, c.s., 1/4 oz.	\$1.00	
<i>Berberis thunbergii</i> , c.s.	.70	2.50
" atropurpurea, c.s.	4.40	16.00
<i>Betula nigra</i> , c.s.	.50	1.75
<i>Calycanthus floridus</i>	.50	1.65
<i>Caragana arborescens</i>	.25	.80
<i>Casuarina cunninghamiana</i>	2.75	10.00
" stricta, per oz.	\$1.25	
<i>Ceanothus americanus</i>	.55	1.85
<i>Celastrus scandens</i> , c.s.	.30	2.75
<i>Cercia canadensis</i>	.30	.95
<i>Chionanthus virginica</i> , c.s.	.45	1.50
<i>Cladrasia lutea</i>	.65	2.25
<i>Cornus alternifolia</i> , d.b.	.50	1.80
" florida, c.s., washed	.30	.95
" kousa, c.s.	.80	2.75
<i>Corylus avellana</i>	.25	.85
<i>Cotoneaster horizontalis</i> , c.s.	1.80	5.00
<i>Crataegus coccinea</i> , c.s.	.45	1.50
<i>Cupressus arizonica</i>	.90	3.25
" glabra	.90	3.25
" macrocarpa	.85	3.00
<i>Cytisus scoparius</i>	.25	.85
<i>Diospyros virginiana</i>	.25	.70
<i>Elaeagnus angustifolia</i> , d.b.	.25	.50
" argentea, c.s.	.35	1.25
<i>Epigaea repens</i> , per 1/4 oz.	\$1.25	
<i>Eucalyptus rostrata</i>	1.80	6.50
<i>Fraxinus americana</i>	.25	.85
" lanceolata	.45	1.50
" quadrangulata	.45	1.50
" velutina	.90	3.10
<i>Hamamelis vernalis</i>	1.35	4.75
<i>Hicoria cordiformis</i>	.25	.85
<i>Hicoria paniculata</i>	.65	2.25
<i>Larix leptolepis</i>	1.95	7.00
<i>Magnolia acuminata</i> , c.s.	.45	1.60
" fraseri, c.s.	1.25	4.50
" glauca, c.s.	.55	2.00
" grandiflora	.50	1.75
" soulangiana, c.s.	1.60	6.00
" tripetala	.45	1.60
<i>Morus alba</i> , c.s.	.65	2.25
" tatarica, c.s.	.45	1.60
<i>Nyssa aquatica</i>	.40	1.40
<i>Parkinsonia aculeata</i> , c.s.	.85	3.00
<i>Paulownia tomentosa</i>	.70	2.50
<i>Photinia serrulata</i> , d.b.	1.05	3.75
<i>Picea glauca albertiana</i>		
" Black Hills Spruce	2.10	7.50
" pungens (Colo.)	1.25	4.50
" glauca	1.65	6.00
" sitchensis	1.00	3.50
<i>Pinus albicaulis</i>	2.10	7.50
" banksiana	.90	3.25
" muricata	.90	3.25
" murrayana	1.40	5.00
" ponderosa (Colo.)	.35	1.25
" (Wash.)	.35	1.25
" resinosa	.25	.85
" rigida	.65	2.25
" strobus	.50	1.75
<i>Pistacia chinensis</i>	.65	2.25
<i>Platanus orientalis</i>	.25	.75
<i>Prunus avium</i> , c.s.	.35	1.10
" cerasifera, c.s.	.35	1.10
" serotina, d.b.	.35	1.25
" spinosa, d.b.	.45	1.60
<i>Pseudotsuga douglasii glauca</i> (Colo.)	1.00	3.50
<i>Raphiolepis indica</i>	.95	3.50
<i>Rhododendron cunninghami</i> , c.s.	per 1/4 oz. \$1.00	
" hybrids mixed, c.s., 1/4 oz.	\$2.00	
" maximum, c.s., per oz.	\$1.10	
" ponticum, c.s., per 1/4 oz.	1.10	
<i>Rhodotypos kerrioides</i>	.70	2.50
<i>Rubus arvensis</i>	.25	.85
<i>Rosa arkansana</i> , d.b.	.50	1.75
" hugonia, d.b.	.90	3.25
" multiflora, thorny, c.s.	.50	1.75
" rugosa, c.s.	.85	3.00
<i>Sambucus pubens</i> , c.s., per oz.	\$0.25	
<i>Sequoia gigantea</i>	2.35	8.50
" sempervirens	1.00	3.50
<i>Styrax americana</i>	.50	1.75
<i>Swietenia mahogani</i>	1.65	6.00
<i>Taxodium distichum</i>	.35	1.10
<i>Taxus cuspidata</i>	.25	.85
" media hickoi	.25	.85
<i>Thuja orientalis</i>	1.00	3.50
<i>Viburnum lantana</i> , d.b.	.45	1.60
" rhytidophyllum, c.s.	.70	2.50
<i>Wisteria sinensis</i> , blue	.45	1.60
" white	.85	3.00

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drawer of his desk looking for something. "Here, Chas., look at that," and he handed me a snap shot of a team of Indian ponies. "That's the outfit that I won first prize at the fireman's picnic in 1905. That's me there holding the lines."

"That looks like somebody out of the funny paper, Emil. Is that the same derby you still got? Boy, you went in for whiskers in them days."

"Everybody wore whiskers then and a long mustasche. Look at that team, Chas., see the brand there on that horse's hip. That was a team they had in the livery stable in Lake Park where I worked, but they was too wild for the livery and I bought the team and the rig with it for \$60.00. I was the only one who could drive that team so I got them cheap. That was the outfit I had when I started the nursery. The very first spring I had them hitched onto a corn cultivator when they got scared at an automobile, autos was new in them days, and away they went. That was the fastest ride I ever took, they hit right for town and I wound up in the park right in front of the soldiers monument with one horse down with a broken leg. Old man Weaver was marshal in them days and he come over and put a shot right thru that horse's head. Weaver was in my company in the Spanish-American War and he was a good shot. It wasn't long after the other horse got into the green corn and died of the colic."

"They got a used highwheel job down at Bowerses, Emil, that they will let go for \$200.00. You can pull a double bottom plow and a disk at the same time, Emil, think of that. We could run the corn shredder, too, and you could throw out that old stationary engine which has got the cylinder cracked anyway. Sandy says that stationary engine is going to bust apart and kill somebody sure. We could go to work and fix a place there in the corn crib to put the tractor under cover. You can get a new job Sandy says for only \$40.00 down and—"

"I didn't have no horse at all the rest of that summer," Emil continued, "but along in the fall a band of gypsies moved in up north of town by the river. They had a lot of trading stock so I went up to look it over. I picked up a fine little young filly, a french coach horse with a bobbed tail. She was a beauty, held her head high and was a good stepper. I bought her for

\$20.00 and brought her right out and hooked her on a walking cultivator. I took a notion to have her bred so I could raise my own horses and so I took her over to Lake Park and had her bred to the grand champion thoroughbred stallion, Peter the Great. I only had her about three months when one day the sheriff comes in with a warrant for my arrest. Let's see your bill of sale on that coach horse, he says. Well, sir, I didn't have no bill of sale, you know how gypsies are in horse deals, you just lay down the money and walk off with the horse. No bill of sale? he says, and I was up against it. He took the horse, he claimed it belonged to some rich city farmer over in the western part of the state, so then I was out of a horse again."

"Emil," I says, "we are the only nursery in the United States which ain't got at least one tractor. John Bushbottom asked me at the convention if we was still operating in the style of the gay 90's, that old sway-back critter you got, he says, should be given a decent burial. I told John we was waiting for the 1941 models of Diesels to come out and then we would show the members what a modern outfit for nurseries was like. I told John we would make the boys sit up and take notice."

Emil was still in a trance thinking of the old days and paying no attention to me at all. "After I lost that French Coach," he says, "I was up against it for a horse until the next spring I was over to Lake Park talking with the Mayor about some soft maples for the park. He happened to mention that they was going to put in trucks in the fire department and was going to get rid of the horses. Finally I wound up with a trade so I got a team of broken down Belgians off the fire engine. They had seen better days but they still had a lot of pep for an old team. They wasn't

no good for the nursery, their feet was too big to get in between the rows and then they never would learn to turn around at the end of the rows without tramping down everything in sight. In them days there was a certain switch engine used to have a bell that sounded just like the old fire bell, and whenever that engine went by those horses got wild, and just about kicked out their stalls in the barn. One day I was out loading some honeysuckle when that engine come by. Away that team went on the gallop with the lines flying! They headed for town so I cut thru in back of the creamery on foot, hoping they wouldn't kill anybody. That was before we had the new bridge on Main Street. There was an old iron bridge with some rusty rails and when that team hit the bridge the wagon went right over thru the rail and pulled the team over too. You never seen such a scramble in your life. One horse was strangled and the other had a bum leg so I sold him for \$5.00. Lots of the old timers in town can tell you about that runaway. That was the best runaway we ever had in Riverbend. The only other runaway that amounted to anything is when the brewery wagon broke loose and all Main Street was smelling of beer the rest of the summer. You know old man Meyers with the wooden leg that runs the crossing gates at the depot, he was the driver of that team and that's how he lost his leg."

"Say, Emil, why don't you cut out the ancient history and consider the proposition we are up against right now. We are fresh out of horse meat and we ain't even got any good trading stock. Why don't you trade Victoria off while she can still stand on her 4 feet. You owe it to the old mare to give her a decent burial before she gets put onto some garbage wagon. If that was my horse I would write to some museum and see if they don't

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"Chas., I was reading in the Rural New Yorker where a farmer had a horse going good which was 39 years old. There ain't nothing the matter with Victoria any worse than usual. Just go to work and mix up a batch of that medicine Doc give us and old Victoria will be as spry as a colt."

"You mean you ain't going to buy a tractor, Emil?" I says.

"Not so long as there is good horses to be had, Chas., I ain't. I got my eye on a fine team of Morgans. There is a farmer out east of town got just the team I want. I am going to go to work and see if he won't take some honeysuckle or soft maples in trade. Chas., did you ever see a good team of Morgans, not too big and not too small, just about medium for size? These are a pair of chestnuts about 12 or 13 hands. Chas., did you ever notice how a Morgan holds his tail? I remember one time—"

That was too much for me. I left him there and walked out. Sandy Bowers was waiting there behind the corncrib with that new tractor on his truck.

"Well, what do you say, Chas. Shall I unload her?"

"It ain't no use, Sandy. Collections are bad, Emil says, and besides he's got his heart set on a Diesel. You may as well take it back."

As Sandy drove out with that new shiny red tractor, I walked over by the windmill, where Victoria was standing switching flies.

"Giddap, old lady," I says.

WILCOX AND LAIRD JOIN.

Raymond Hill Wilcox and Edward H. Laird, both well known landscape architects and town planners, have joined to form what is said to be the largest firm of its kind in the Michigan area. Their office will be in the Union Guardian building, Detroit, where the Wilcox office now is located. Mr. Laird will continue his office at Birmingham, Mich., as a branch, and the personnel of both offices will be retained and amplified.

Mr. Wilcox, with twenty-seven years' experience, is a member of the American Society of Landscape Architects. Mr. Laird, a graduate of Michigan State College, is a senior fellow of the American Association of Park Executives.

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This Business of Ours

Reflections on the Progress and Problems of Nurserymen

By Ernest Hemming

PROBLEMS OF THE SMALL NURSERY.

I have been reading the Senate committee print of the small business problems of the nursery industry. It certainly makes depressing reading because the small nursery does seem to be hampered and harassed more than necessary. True enough, on behalf of civilization or progress our government does penalize rather than help the nursery industry. If we were an industry in the rum or narcotics class, then by all means bring it under strict government control. There can only be one result to the country of a highly developed nursery industry and that is to make the country more fruitful and beautiful. The country needs more and better fruit; every country home should be in the midst of a flower garden, every piece of waste ground a wood lot, every road a bower of trees, and every city should have its parks kept like the grounds of the wealthy. If this would be the result of a highly developed nursery industry, why does the government, both state and federal, make so many laws and regulations to hamper and discourage it? Why not cooperate with it?

If we may offer a parallel, is it conceivable that the government could have developed the automobile business equal to what private industry has done in the past thirty-five years? We think not. Yet under the guise of protection from disease and pests the authorities make laws and regulations that do little but harass the industry. In reality, plant diseases and pests are more prevalent among wild plants than those grown in nurseries, where they are cared for. The very existence of a nursery depends on its ability to grow clean, healthy plants. The laws and regulations hamper the movement of plants, but do not prevent the movement of diseases and pests by wind, animals, birds and even automobiles and trains. In other words, while most of the laws and regulations were perhaps well intended, many of them have proved ineffective, but still remain on

the statute books to harass and discourage the industry.

Those other problems that discourage the small nursery, such as the need of freer capital necessary to carry over the slack season, unsatisfactory labor, the increased cost of overhead due to the social security requirements, taxes, etc., are common to all industries, and the nurseries can hardly expect preferential treatment, but we cannot but feel that they should receive the most favorable classification and be encouraged in every possible way. In other words, if there is one industry that creates real wealth for the country, it is the nursery industry.

The very fact that the government enters into competition with the nursery industry is proof enough of the importance of the industry to the welfare of the country at large. So why not cooperate instead of competing? E. H.

THE SPECIMEN BLOCK.

Perhaps, the most difficult thing for a nurseryman to decide is when to discard overgrown stock. There are certain choice evergreens and shade trees for which there is a limited market, however large they are. These should be as nearly perfect as possible and be moved to the specimen block when a commensurate price can be asked.

To allow depleted blocks to remain year after year because there are a few overgrown plants in them, with the hope that some customer will come along, is poor economy. Such plants should be taken to the brush pile

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and a cover crop sown until the ground is needed.

The specimen block might be termed a modern feature of the retail nursery. It should be well located from a publicity and sales point of view, as it really makes a good show window whence the customer can see what the plants are like as they grow up, and where he can select plants of matured value rather than the potential value of small plants.

In these days of automobile trucks, when the moving of large balled specimens has become common procedure, the demand for more mature specimens of trees and plants is steadily increasing. The forward-looking nursery will plan accordingly.

A mixed specimen block, properly planned so it can be worked both ways, can be kept clean with little labor. It should be easily accessible from all directions because in this block, where the plants become individuals at a commensurate price, there are no vacancies. As soon as one plant is removed, another takes its place, with proper attention to the fertility of the soil in that particular spot.

If the mixed specimen block is planned and started along the right lines, it holds out promise of a profitable future and is in line with the trend of the times. E. H.

PUSHES REDBUD PROGRAM.

Supporting the garden club project to make Dallas "the redbud city of Texas," a local department store did some effective advertising in the nurserymen's behalf in 2-column space in a recent issue of the Dallas Morning News. The text of the advertisement was as follows:

"LET'S MAKE DALLAS THE
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Now Is the Ideal Time to Plant

... Ask Your Nurseryman

The Dallas Woman's Garden Club begins again on a worthy project... that of making us conscious of the potential beauty of our lawns and parks. Whether or not you belong to this splendid organization, do your bit toward making Dallas the redbud city of Texas. This flaming, profusely blooming shrub is hardy and fast-growing. Plan your landscaping, talk to your nurseryman, plant as many redbuds as your lawn can accommodate. You'll be repaid in beauty for your own property, as well as contributing to city-wide beauty!

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Diseases of Trees

Gleanings from the Latest Reports of Scientific Research

By Leo R. Tehon

ERADICATE CROWN GALL BY CHEMICAL TREATMENT.

In previous issues of the American Nurseryman the possibility of avoiding crown gall infection of nursery stock, particularly peach stock, by properly controlling the acidity of the soil in which the stock is grown, has been given a considerable amount of attention. But the prevention of infection while trees are in the nursery provides a solution for only a part of the crown gall problem. Trees, after being transplanted to orchard sites, can still become infected. The crown gall disease, as a consequence, kills many productive orchard trees every year, chiefly because there has been no reliable method of treating the diseased trees.

Dr. P. A. Ark, of the University of California's division of plant pathology, has been experimenting for three years with many chemical compounds, applying them to young crown gall infections on almond trees, in an attempt to find some compound that can be used safely and effectively as a crown gall treatment. Previously growers and investigators have attempted to treat crown gall by applying Bordeaux mixture pastes and creosote (or cresol compound), but have met with failure in controlling the disease or have succeeded only in killing the treated trees.

Now Dr. Ark reports that he has had considerable success with three chemical materials, each made up in special solution. The materials he finds effective are sodium dinitrocresol, iodine and clove oil.

Sodium dinitrocresol is a relatively new fungicidal chemical. It has been made available commercially under such trade names as Helione and Elgetol. The latter, which is the form used by Dr. Ark, is said to contain also a penetrating agent which carries the active chemical into the dead or diseased plant tissues to which it is applied. The mixture used successfully by Dr. Ark in treating crown galls is prepared by taking twenty volumes of Elgetol and eighty volumes of methyl alcohol and shaking them together well. This mixture is

to be painted on a clean gall with a painter's brush. The surface of the gall should be thoroughly covered, as should also the healthy bark surrounding the gall for a distance of one-half to one inch from the gall.

Tests with this sodium dinitrocresol mixture gave 100 per cent control of galls on almond trees, the galls ranging in size from three to ten inches in diameter. Fifty-five galls treated between July and December, 1939, were dead when checked in May, 1940; in September, 1940, no new development of galls could be found around the remnants of the treated galls.

Two iodine solutions proved satisfactory. Solution A is made up of methyl alcohol, fifty parts; glacial acetic acid, twenty-five parts; glycerine, twenty-five parts, and metallic iodine, ten parts. Solution B contains 100 parts of methyl alcohol, fifteen parts of glacial acetic acid and twelve parts of metallic iodine. As made up, these solutions are to be used on whole galls. If the surface of the gall or the bark around the gall has been scarified, solution A must be diluted five times, solution B six times, with methyl alcohol.

When treated in hot weather with iodine solution A, crown galls died within two to three months. When treated with the same solution in cold weather (December, in California), about fifty per cent of the galls died within six months and seventy-five per cent within a year.

The clove oil treatment proved effective, also. A mixture is compounded, consisting of one part of clove oil, one part of glacial acetic acid and two parts of methyl alcohol. This mixture is applied directly to the gall and surrounding bark with a brush. Also, if it is desired, the gall may be removed surgically and the wound treated; in this case, the clove oil compound must be diluted five times with methyl alcohol and enough metallic iodine should be added to make a strength of two per cent.

The sodium dinitrocresol (Elgetol) mixture is the cheapest, as to cost, and can be applied at any time of year. The iodine and clove oil mixtures are

more costly and are most effective when applied in summer.

The possibilities in the use of these materials are indicated in Dr. Ark's final statement: "In some cases it was possible to eradicate the gall when it had almost completely girdled the tree. In such cases, treatment must be performed only on part of a gall at one time. It is dangerous to paint such large galls with the chemicals mentioned above, since their accumulation in the plants may become sufficiently great to cause death."

L. R. T.

VIRUS NOMENCLATURE.

In keeping with a growing current demand for a classificational and nomenclatorial system for viruses, a number of systems have been proposed or suggested in greater or less degrees of completeness. By means of these systems, it would be possible to refer definitely by name to a particular or specific virus, possibly with a binomial similar to the technical name used to designate a plant species.

One such system has been suggested by Dr. Howard S. Fawcett, of the citrus experiment station, Riverside, Cal., which later may be of importance to nurserymen. Recognizing the need for virus names even before the viruses are well enough known to permit of their being classified in any of the more permanent systems, he has proposed a method, or more exactly, a rule for the proper naming of virus genera. This rule he states as follows: "Add the stem 'vir' (Latin neuter) to the Latin genitive of the genus of the host in which the virus was first discovered and recognized, dropping any final consonants that occur in this genitive."

For all of the viruses first discovered on citrus Dr. Fawcett proposes, in accordance with his rule, the generic name Citrivir, and for individual viruses he proposes additional "specific" and varietal names. Thus the virus of infectious mottling would be named Citrivir italicum, the virus of citrus psorosis Citrivir psorosis, the virus of scaly bark psorosis Citrivir psorosis var. vulgare.

Although many technical workers object to a binomial naming system for viruses, advancing such argu-

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Baccata Frueki, white 4 to 5 ft.
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Floribunda, pink 4 to 5 ft. and 5 to 6 ft.
Floribunda Peach-
blow, pink 4 to 5 ft. and 5 to 6 ft.
Hopa, red 4 to 5 ft. and 5 to 6 ft.
Ioensis 4 to 5 ft. and 5 to 6 ft.
Ioensis Fiore's Improved,
pink 4 to 5 ft. and 5 to 6 ft.
Matthew, pink 4 to 5 ft. and 5 to 6 ft.
Niedzwetzkyana, red 4 to 5 ft.
Prunifolia Rinkii,
pink 4 to 5 ft. and 5 to 6 ft.
Robusta 5 to 6 ft.
Scheldekeri 4 to 5 ft.
Snowbank, white 4 to 5 ft. and 5 to 6 ft.
Zumi calocarpa,
white 4 to 5 ft. and 5 to 6 ft.

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12 to 18 ins. 12.00
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2 to 3 ft. 35.00
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4 to 5 ft., transplanted, \$15.00 per 100

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ments as that the viruses are not certainly known to be living organisms and that numerical designations might serve more generally and accurately, the adoption of some system of naming would have distinct advantages. The binomial system, so long in use for plants and animals, presents a method understandable to most people interested technically and commercially in plants.

L. R. T.

PLUM CURCULIO.

The plum curculio, second only to the codling moth in destructiveness, causes an estimated annual damage of \$17,000,000 to the deciduous fruit industry, according to P. J. Chapman, entomologist at the New York state experiment farm, Geneva.

The adult beetles, which winter under debris on the ground, begin migrating to apple trees during the blossom period, reaching the peak of their activity within ten to fourteen days. As soon as the young fruits begin to form the beetles start to feed upon them and lay their eggs in the holes made by the feeding. The infested fruits usually fall to the ground prematurely, and when the larva has completed its development it leaves the fruit and pupates in the ground. After the beetle has reached the adult stage, about August, it leaves the ground and feeds for a short time on the apples. It then begins to look for some debris under which to winter.

Mr. Chapman, after extensive experiments, has found that best control results are obtained from three sprayings with a standard formula of lead arsenate, using three pounds to 100 gallons of water and the first spraying taking place at the time the petals begin to fall and the second spraying seven to ten days later. From ten to fourteen days are allowed before the third and final spraying.

EVERY state has selected a state flower and all but one a state bird, but only seven have a state tree. These are: Idaho, white pine; Illinois, native oak; Indiana, tulip tree; Oklahoma, redbud; Pennsylvania, hemlock; Rhode Island, maple, and Texas, pecan. While Maine has been known as the Pine Tree state and Ohio as the Buckeye state, neither has adopted a state tree.

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Baron von Dedem. Orange-red. 24 ins.
Beacon. Clear cherry-red. 36 ins.
Bridesmaid. White, crimson eye.
Champs Elysee. Dark purple. 24 ins.
Eclairer. Rosy-magenta. 32 ins.
Firebrand. Large orange-scarlet.
Frau Anton Buchner. Pure white.
Louise Abbema. Pure white. 32 ins.
Mrs. Charles Dorr. Tall lavender.
Mrs. Jenkins. Pure white. 30 ins.
Mrs. R. P. Struthers. Orange-red.
Pantheon. Carmine-pink. 30 ins.
Prime Minister. White, crimson eye.
Rheinlander. Salmon-pink. 32 ins.
Riverton Jewel. Rose, carmine eye.
Rijnstroom. Very best deep pink.
Siebold. Orange-scarlet. 30 ins.
Sir Edwin Landseer. Bright crimson.
Special French. Pink, crimson eye.
Von Hochberg. Black-red. 42 ins.
Von Lassburg. Large white. 28 ins.
Widar. Deep violet, white marking.

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Africa. Deep scarlet. Splendid. 30 ins.
Antonin Mercie. Lilac-mauve. Early.
Brilliant. Large, fiery-scarlet.
Caroline Vandenberg. Lavender-blue.
Daily Sketch. Salmon, crimson eye.
Eiffel Tower. Salmon, red center.
E. I. Farrington. Salmon, soft pink.
Fiancee. New, best pure white.
Flora T. Riedy. Large pure white.
General Petain. Deep wine-red.
George Stupp. Salmon, shaded eye.
Grandeur. White, deep rose.
H. B. May. Bright pink, large spikes.
Jules Sandeau. Compact pure pink.
Mia Ruys. Largest pure white.
Morgenrood. New wine-red. Striking.
Mrs. E. Pritchard. Best blue Phlox.
Mrs. Scholten. Dark salmon-pink.
Paladin. Fine salmon-pink, red eye.
Salmon Glow. Flame, pink, salmon.
Salmon Queen. Beautiful soft salmon.
Starlight. Violet-red to lilac.
Wm. Kesselring. Violet, white eye.
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Answers to Inquiries

GALLS ON EUONYMUS.

I am sending you a plant of *Euonymus patens* which is heavily infested with what seems to be a gall. This plant came from a hedge that is full of these growths. Since euonymus is one of our best broad-leaved evergreens, we are rather concerned as to what this disease is. E. A.—Mo.

Although outwardly much like the growth produced by crown gall infection, the galls on your euonymus sample are obviously different from the growths characteristic of crown gall, for they clearly result from the continuous development of a large number of buds into small short shoots, compactly crowded together and enclosed in woody matrix.

So far as I am aware, no study of this kind of gall on euonymus has ever been made. However, there is accumulating now a body of information which tends to show that galls of this kind develop on a large variety of woody plants, as the result of attack by a parasitic fungus of the kind called phomopsis. This infection is of a low grade, tending to stimulate rather than to kill the tissue it attacks and to produce an abnormal type of stimulated growth.

The fact that the galls occur throughout the hedge from which your plant was taken indicates the likelihood of its having been spread through the hedge on pruning tools. To prevent further spread, the tools used in future pruning operations should be kept as sterile as possible while the pruning is being done. In order to sterilize the instruments, they should be either dipped in a 1/1000 solution of corrosive sublimate or thoroughly wiped with a cloth saturated in the same solution after each cut has been made. This precaution should be followed especially where cuts have to be made in the older, more woody parts of the plant.

To some extent, perhaps, the gall-infested growth now present could be pruned out without damage to the hedge, but there is no other way at present for treating the already infected plants. L. R. Tehon.

CONTROL OF WHITE GRUBS.

I should like information about a control of white grubs, which come onto clean soil when it is first planted, eating off the roots of numerous trees of spruce, pine and juniper when 4 and 5 years old, as well as younger ones. The land is kept in clean cultivation. L. B. R.—O.

White grubs are the larvæ of June bugs or May beetles. They come from the eggs which the beetles deposit in sod land or weedy areas and ordinarily are not found in clean cultivated land used for nurseries.

Lead arsenate has been used at the rate of five pounds per thousand square feet to control the grub of the Japanese beetle. In experimental work at Michigan State College, it is reported that lead arsenate used at that rate killed many June beetle grubs working close to the surface and it did not kill trees. Unless the soil is very acid in its reaction or unless it contains a large amount of organic

matter, the trouble with the use of lead arsenate is reported as unlikely.

One evergreen nursery reports that white grubs cause no permanent damage to evergreens remaining in the nursery, as the grubs do damage for but one season under nursery cultivation and the trees grow new roots to replace those eaten off. But if evergreens are transplanted while the grubs are active, the trees may not thrive in the new location.

The grubs are quite susceptible to disease, and if the skin is pierced, death is sure to follow. Advantage is taken of this fact by the use of "stompers," made by fastening knitting needles or long, stiff wires into blocks of wood, and "stomping" the infested soil about the trees. This process is laborious, but it may be used under some conditions to save valuable trees.

THE Sherman Nursery Co., Charles City, Ia., received the highest number of ribbons in the commercial flower and arrangement section of the show held by Iowa State College students at Ames, November 13 and 14, when florists of the state met there.

BE MODERN!

If you are going to the tenth floor of an office building, don't walk up the stairs—take the elevator!

If you want to talk to a friend, don't rush clear across town—call him on the telephone.

If you have stock to sell to nurserymen, use the quickest and easiest method—tell what you have, and the price, to 4500 trade buyers through the advertising columns of the American Nurseryman.

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Chokeberry, Black, 12 to 18 ins.	40.00
Chokeberry, Black, 18 to 24 ins.	70.00
Chokeberry, Black, 2 to 3 ft.	85.00
Lonicera Fragrantissima, 18 to 24 ins.	45.00
Lonicera Fragrantissima, 2 to 3 ft.	75.00
Lonicera Fragrantissima, 3 to 4 ft.	100.00
Weigela Rosea, 18 to 24 ins.	45.00
Weigela Rosea, 2 to 3 ft.	75.00
Weigela Rosea, 3 to 4 ft.	100.00

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SOUTHWESTERN NEWS.

The regional office of the national labor relations board has issued a complaint against the Stark Bros. Nurseries & Orchards Co., Louisiana, Mo., charging that the company has refused to bargain collectively with the union. A hearing was set for November 24 at St. Louis. The union is the C. I. O. industrial union local 1129 of Louisiana, which claims to represent a majority among the 150 employees involved in the dispute. The complaint charged that on June 25, and since that date, the company has refused to recognize the union.

The United States Weather Bureau issued the following statement: "This was by far the wettest October known in Kansas since state-wide records were begun in 1887 and made the first ten months of 1941 wetter than the corresponding period of any other year on record. Every section of the state had an excess of moisture during the month, except some of the northwestern counties."

Ralph Smith, operator of the Smith Landscape Service, Topeka, Kan., has bought five acres of land in Highland Park, a suburb of Topeka, where he will establish a nursery and sales yard.

The Kansas Evergreen Nurseries, Manhattan, Kan., were low bidders on the landscaping of defense housing projects at Fort Riley and Wichita, Kan.

The Leavenworth Nurseries, Leavenworth, Kan., were low bidders on landscaping the new recreation center at Fort Leavenworth.

The Kansas state highway commission is advertising for bids on roadside improvement projects extending for 2.75 miles in Atchison county and three and one-half miles in Shawnee county.

E. C. Thornhill, Las Cruces, N. M., has sold his nursery to Adlai Feather.

Ted Harris is establishing a florists' and nursery business at El Paso, Tex., where he has already constructed a greenhouse and a lath house.

The authorities at the University of Kansas have changed the dates of the lectures to be given by Arthur Berger, L. A., from December 8 and 9 to December 4 and 5, so that members of the Kansas State Horticultural Society and the Kansas Association of Nurserymen, who will be in joint convention on those days, may hear him.

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PEACH, Leading Varieties
ELM, American, 8 to 10 ft. up to 3-in.
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ELM, Vase, 3-in. up to 5-in.
MAPLE, Norway, 8 to 10 ft. up to 5-in.
WILLOW, Thurlow, 8 to 10 ft. up to 3 1/2 in.
Large stock of Evergreens up to 5 to 6 ft.

Juniper, Pfitzer's, 1200 3 to 5 ft.

Shrubs, Peonies, Roses, etc.

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Germination of Seeds

STORING CONIFER SEEDS.

Because conditions abroad may curtail imports of seeds of evergreen species, and because of the always present possibility of a poor seed year on conifers, their proper storage is particularly important now. The sensitiveness of coniferous tree seeds to the storage conditions under which the seeds are held from year to year or for only relatively short periods of time before sowing has been recognized by many nurserymen.

In the July issue of New York Nursery Notes some advice on this subject was given by C. E. Heit, of the New York agricultural experiment station, Geneva, as follows:

Temperature and moisture are the two important factors which materially affect the viability of seed in storage. The moisture factor has been much more important in many cases than the temperature. Too high relative humidity in open type of storage or too high moisture content of the seed in sealed containers may seriously lower the viability of seed after two or three months. Sealed containers were found to be more effective under all conditions of temperature and especially was this true where the relative humidity of the air in open storage was above forty per cent. At temperatures in an ordinary heated room, where the relative humidity was only twenty to twenty-five per cent, some seeds retained their initial viability in open storage as well as in sealed containers. It is well to point out that seed stored in a bag or open container in an ordinary damp cellar or cool basement, as commonly practiced in the past by many nurserymen, constitutes almost the worst possible type of storage. The optimum type of storage for all seed under observation was a sealed container at a temperature between 32 and 38 degrees. The moisture content of the seed should be reduced below eight per cent for best results. When refrigeration is not available, as quite often is the case, open-air storage in a dry room has proved successful for short periods of time.

There is a wide variation in the sensitiveness of coniferous seed to various types of storage. The hard pines in general are less sensitive to

poor storage conditions than the soft pines or other species. *Pinus resinosa* has held its original viability for three years in an ordinary room, but this pine appeared to be the least sensitive of the species. The spruces, firs, larches and cedars are all more sensitive than the pines to any type of storage, and their sensitiveness appears to be in the order named. However, under the best type of storage at 34 to 38 degrees in a sealed container with the moisture content of the seed under eight per cent, both American arborvitæ, *Thuja occidentalis*, and balsam fir, *Abies balsamea*, have held their original viability for periods of five years. These species stored under other conditions of moisture and temperature have long ago passed their life as a useful seed, capable of germination.

HASTEN TWO-YEAR SEEDS.

Disappointment with results from seeds of trees and shrubs requiring two years to germinate, because the snails, ants or sow bugs got them if the weather didn't spoil them, caused experiments to get the seeds to grow the first season, reports Paul L. Sandahl, superintendent of parks at Des Moines, Ia., in the July issue of Parks and Recreation. The park nurseryman, Gerald R. Titus, found that if certain seeds were gathered while they were in a rather immature stage, but still approaching the mature stage, and planted immediately, they would grow the first year.

"Mr. Titus," reports Mr. Sandahl, "says that he watches closely when the seeds are going from the milk stage into what he calls the meaty stage, but before the outside hull becomes hardened. Of course, there is a wide range of dates when the different seeds approach this stage, and it takes a little close watching and trials by the

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1 to 1½-inch.....	20.00
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2-inch and up.....	40.00

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Evergreen Liners — Specimen Ever-
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Hardy Apple Seedlings — Ornamental
Shrubs — Lining-out Shrubs, Trees and
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Daytons Bluff Sta. St. Paul, Minn.

individual in order to find the proper time. He has found it more than pays to go to this trouble because, as shown in the list below, a high percentage of germination is obtained. This list from his 1939 seed crop was checked in the following spring, 1940.

	Planted	Percentage Germinated
Cornus alternifolia	July 8	100
Cornus rugosa	September 2	100
Cornus paniculata	July 27	100
Cotoneaster acutifolia	July 11	80
Carpinus caroliniana	August 19	100
Cercis canadensis	September 1	90
Hamamelis virginiana	August 27	90
Malus ioensis	September 21	100
Ostrya virginiana	August 19	100
Prunus tomentosa	August 29	100
Rhus canadensis	June 15	100
Rhodotypos kerrioides	August 19	100
Viburnum lantana	July 11	100
Viburnum dentatum	August 20	90

"If this method is tried out, it will be found that these shrub seeds will grow like radishes, and they make exceptionally good growth during the first season. We feel much encouraged in this work and are carrying the trials on farther to see what can be done with other varieties."

GERMINATIVE CAPACITY.

Further studies on the rapid determination of germinative capacity of seeds are contributed by Florence Flemion to Contributions from Boyce Thompson Institute for January-March, 1941. Many seeds require from four to six months for germination to occur, and a rapid method of determining the germinative capacity is useful. Results from her earlier tests have shown that the observation of the behavior of excised embryos serves as a good test for the viability of these seeds. No matter how dormant a seed may be, whenever the excised embryo is placed on moist filter paper at room temperature, some indication of its viability is obtained in ten days. The percentage of viable embryos thus obtained is comparable with the percentage obtained when the intact seeds have been subjected to the optimum conditions for germination.

While the time required to test the viability of these seeds is greatly reduced, this rapid method requires considerable care for the excision of the embryos. Any difficulty that may arise is in the removal of the embryo from the outer and inner seed coats. Certain pretreatments have been developed which facilitate the excision of the embryos.

The hard outer coats of some seeds

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NURSERY STOCK****Our Specialties**

Large Hard Maple
Alpine Currant
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Double Gypsophila
Mountain Ash Sdgs.
Rooted Evergreen Cut-
tings (both potted
and bare root)
Large Flower Clematis
(both potted and
field-grown)
Evergreen Grafts
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French Lilac Liners

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We specialize in growing Hall's Japanese Money-
suckle, well rooted No. 1, 2-yr. stock, 1000 or a
carload. Also transplanted Red Cedar, 6 to 12
and 18 to 24 ins., 1 and 2-yr. stock. Many va-
rieties lining-out stock seedlings. Redbud, Sugar
Maple, Mass. Locust, Chokeberry. Write us your
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GOLDFLAME

Best Everblooming Plant

Write for complete fall price list.

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Higher labor costs, taxes, etc., will
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and retail prices. You will earn
extra profits, if you book your
initial requirements early.

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MOUNT ARBOR NURSERIES
SHENANDOAH, IOWA

were removed with the aid of a cracking device, and the coats of others were treated with concentrated sulphuric acid prior to the cracking. Sometimes the intact seeds were mixed in moist peat moss for a short period either with or without a previous acid treatment. Sometimes soaking the intact seeds in water overnight was adequate.

The article describes treatments for *Campsis radicans*, *Callicarpa purpurea*, *Catalpa speciosa*, *Shepherdia argentea*, *Cercis canadensis*, *Chionanthus retusa* and *C. virginica*, *Menodora scabra* and *M. scoparia*, *Crataegus crus-galli*, *Sorbus aucuparia*, *Pyrus ussuriensis*, nine species of pine, Douglas fir, chokecherry, wild plum, Mahaleb cherry and Myrobalan plum.

WASHINGTON NOTES.

H. J. Reynolds, who for many years was chief horticultural inspector of the state of Washington, has resigned to join the staff of Vaughan's Seed Store, Chicago, to supervise the company's field work in the north-west.

Frank Sumner, Manetti and bulb grower, Sumner, will spend a month in California.

The Western Washington Horticultural Association will hold its annual meeting December 8 and 9 at the western Washington experiment station, Puyallup.

Dr. John H. Hanley, general chairman of the Pacific northwest spring flower and garden show, which is to be held in the civic auditorium, Seattle, March 15 to 22, has announced that all space on the main floor has been taken by exhibitors and space is being rapidly contracted for on the lower floor. "The Pacific northwest show will be as beautiful and as interesting, but quite different from the big national show of last spring, which drew 130,000 visitors," Dr. Hanley said. "We have chosen an American theme because we believe that perhaps in the past too much emphasis has been placed on foreign gardens when actually we have just as wide a range of types of garden here in America."

Avery H. Steinmetz, Portland, Ore., visited Seattle and vicinity recently.

A. and P. Balzareni, Five Corners Nurseries, Inc., Seattle, spent a week in the Portland territory.

The Olympians, Inc., held the official rhododendron planting on the University of Washington campus, November 15. Many prominent officials spoke. Simultaneously with the official planting, the University of Washington arboretum foundation made elaborate preparations for extensive plantings of 300 Asiatic rhododendrons. Other plantings throughout the state took place at the same time.

Donald P. Graham, president of the University of Washington arboretum, Seattle, gave an interesting talk, with the aid of colored movies, before the Washington State Nurserymen's Association at the meeting, November 27, on the new types of



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Juniperus chinensis pfitzeriana, 6 to 8 ins., transplanted, field-grown, \$72.00 per 1000, \$9.00 per 100. Charges prepaid. Many other varieties listed in catalogue.

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Mahonia Aquifolium

(Oregon Holly Grape)

	Per 1000
15 to 24 ins. and up	\$30.50
12 to 15 ins.	25.50
10 to 12 ins.	20.50
8 to 10 ins.	18.00
6 to 8 ins.	15.50
4 to 6 ins.	12.75
2 to 4 ins.	10.25
2 ins.	7.75
1 to 2 ins.	5.25

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Federal entomologists are interested in recent studies of electrical conditions in growing trees and the chance that it may be possible to work out a method of diagnosing the health and vigor of a tree even before signs of low vitality show in the leaves and new growth. An important application would be to measure a tree's susceptibility to insect attack.

If it were possible to detect and remove the trees least able to withstand the attacks of certain beetles and borers before the insects had made the attack, the entomologists would have a helpful aid in preventing damage by these insects. It is the success of beetles and borers in attacking weakened trees and in thus finding new homes where they can live and multiply that makes them a threat to stronger trees. Removing the weaker trees in time would prevent multiplication and would thus protect the stronger ones.

In studies of several varieties of softwoods and a few hardwoods, Thaddeus Parr, of the federal bureau of entomology and plant quarantine, found that in most cases there was a slight but definite voltage gradient within a tree. During the vigorous growth period in the spring, the plus voltage is toward the tip of the tree. Later in the season, when the tree is storing food material in the roots, the plus is toward the base. In trees attacked by borers—or so unthrifty as likely to be attacked—the reaction is abnormal, either weaker than in a normal tree or in the reverse direction.

Scientists have developed a comparatively simple but sensitive voltmeter that can be carried to the woods and that will indicate the direct current potentials in quick readings. Another practical use for such a system of electrical diagnosis would be to indicate low vigor in shade trees and ornamentals and the need for water, fertilization or drainage.

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New Books and Bulletins

"THE GARDEN OF PINKS."

Published originally in 1938, "The Garden of Pinks," by Dr. L. H. Bailey, this month is reissued at the price of \$1.39 by the Macmillan Co. This book of approximately 150 pages, handsomely bound, covers the members of the important genus, dianthus, favorite garden plants in many forms, including carnations, sweet williams, cottage pinks and rock garden plants.

This genus has long been a favorite of Dr. Bailey, and he has written about the cultivation of pinks of all kinds in North America, each group being accorded a chapter. In addition is a chapter on insects by W. E. Blauvelt and one on diseases of dianthus by Dr. P. P. Pirone.

To straighten out the nomenclature, the second half of the book is an enumeration of all the species and main botanical varieties of dianthus known to the author or listed as horticultural subjects in this country and Canada.

"GARDEN OF LARKSPURS."

Published in 1939, "The Garden of Larkspurs," by Dr. L. H. Bailey, is also reissued this month at \$1.39 by the Macmillan Co. This is a companion volume, in similar style and binding to "The Garden of Pinks."

The book covers the cultivation and uses of all the species of delphinium or larkspur which have been found adaptable in the United States. More than 100 supposed species are accounted for. The different groups of larkspur are treated in separate chapters, besides separate discussion of their breeding and culture. A chapter on diseases was contributed by Leon H. Leonian and one on insects by W. E. Blauvelt. The book is of approximately 120 pages and includes a key to 113 varieties of seventy-six species, which occupies thirty-six pages of the book.

CHEMICAL FORMULARY.

New formulæ have been gathered to compile a fifth volume of the "Chemical Formulary," an edition which broadens and brings up to date

the contents of the previous four volumes. This book, just published by the Chemical Publishing Co., Brooklyn, N. Y., at \$6, contains 674 pages of information of widely varying character. It constitutes a reference work for students, professional chemists and laymen. Besides references as to sources of supplies and the like, the contents include formulæ for adhesives for paper, beverages, cosmetics and drugs, emulsions, farm and garden specialties, food, inks, leather, lubricants, construction materials, metals, paints, paper, photography, polishes, pyrotechnics and explosives, rubber, resins, plastics and waxes, soaps, textiles and fibers.

BULLETINS RECEIVED.

Several useful bulletins have recently been issued by the New York state college of agriculture at Cornell University, Ithaca, N. Y., which are sent free only to residents of New York state. Cornell extension bulletin 465, "Woody Plants for Shady Places," by R. W. Curtis and J. F. Cornman, gives a considerable variety of lists, with brief descriptions of the plants named in this attractive 32-page pamphlet. Bulletin 468, "Structures for Starting and Growing Ornamental Plants," by Kenneth Post, is especially helpful in the construction of hotbeds, coldframes and cloth houses. Bulletin 469, "The Home Lawn," by John F. Cornman, covers the construction and maintenance of the lawn quite well in twenty pages.

"Control of Citrus Insects and Mites," by H. J. Quayle, California extension service circular 123, gives in

thirty-two pages the essential facts about such pests and means of control.

"The Removal of Leaves from Rose Plants at the Time of Digging," by John A. Milbrath, Elmer Hansen and Henry Hartman, bulletin 385 of the Oregon agricultural experiment station, Corvallis, reviews the methods formerly used to remove leaves from rose plants at digging and outlines a new procedure of defoliation through the agency of ethylene gas.

"The Blueberry in New York," by G. L. Slate and R. C. Collison, circular 189 of the New York agricultural experiment station, Geneva, describes the commercial cultivation of the improved varieties of the high-bush blueberry.

"Care of Ornamental Trees and Shrubs," bulletin 354 of the Mississippi agricultural experiment station, State College, by F. S. Batson, associate in horticulture, and R. O. Monosmith, extension horticulturist, is an unusually clear and up-to-date explanation of plant care designed to help the public. Many illustrations add to the usefulness of this pamphlet of fifty-six pages and cover.

"Cropping Systems That Help Control Erosion," by Orville E. Hays and Noble Clark, bulletin 452 of the Wisconsin agricultural experiment station, Madison, briefly describes recommended practices.

"The Internal Application of Chemicals to Kill Elm Trees and Prevent Bark-Beetle Attack," by R. R. Whitten, circular 605 of the

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United States Department of Agriculture, discusses in twelve pages tests made with chemicals for the purpose.

"Miscellaneous Tropical and Sub-tropical Florida Fruits," bulletin 109 of the Florida agricultural extension service, Gainesville, is a revision by H. S. Wolfe of an earlier bulletin by Harold Mowry and L. R. Toy. This bulletin of ninety-six pages pictures and describes many unusual fruits which might be grown in the southern part of Florida.

"Soil Reaction Preferences of Plants," special bulletin 306 of the Michigan agricultural experiment station, East Lansing, is a compilation by C. H. Spurway of the pH range of a long list of plants, filling thirty of the thirty-six pages of the pamphlet. This information in ready reference form should be quite useful to growers.

"Peach Culture in Michigan," circular bulletin 177 of the Michigan agricultural experiment station, East Lansing, is a thorough discussion of orchard practices by Stanley Johnston, its eighty-four pages being well illustrated and the four covers carrying pictures in colors.

"Preliminary Investigation of Oak Diseases in Illinois," by J. Cedric Carter, and "A Needle Blight of Austrian Pine," by Robert L. Hurlbary, appear as articles 6 and 7 in volume 21 of the Illinois Natural History Survey bulletin. These are scientific studies of the diseases mentioned and do not contain recommendations for control measures.

"Plants Reported Resistant or Tolerant to Root Knot Nematode Infestation," by Jocelyn Tyler, of the federal bureau of plant industry, miscellaneous publication 406 of the United States Department of Agriculture, lists the plants alphabetically, with references to reports on each.

"Farm Weeds: Their Importance and Control," by A. B. Massey, is the subject of the 120-page bulletin of the Virginia Polytechnic Institute, Blacksburg, for August, 1941. Sixty-six full-page sketches make easy identification of the weeds, and the accompanying text describes control measures of various sorts.

"Gladiolus Diseases and Insects," by Lucia McCulloch, farmers' bulletin 1860 of the United States Department of Agriculture, gives the

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control measures for the common pests of this flower.

"Filberts," by G. L. Slate, circular 192 of the New York agricultural experiment station, Geneva, gives a brief but thorough discussion of the culture of this nut tree.

"Varieties of Fruit for New York," circular 103 of the New York agricultural experiment station, Geneva, lists tree and small fruits and nut varieties deemed suitable for planting in New York state.

Circular 611 of the New York state department of agriculture and markets, Albany, lists nurserymen, dealers, florists and others in the state who received nursery certificates for the year ended October 1, 1941. Circular 605 describes the work of the bureau of plant industry in inspection work and pest control.

Publications on forestry, from 1935 to 1940, appear in an annotated list, including reviews, abstracts and other information compiled in the United States Forest Service library, at Washington, D. C. This bibliography appears in two parts. Part 1, of twenty-nine mimeographed pages, includes books issued by commercial publishers. Part 2, of eighty-seven pages, includes bulletins and pamphlets, principally those issued as official publications of institutions and organizations.

FOR FARM EQUIPMENT.

Considerable time will be required, it is expected at Washington, to establish the program of allocations, to replace the unsuccessful system of priorities, in the distribution of metals and other scarce materials.

While statistical information is being acquired to establish the allocations, experiments probably will be made in a selected number of industries.

One of those mentioned for such experiment is the farm implement manufacturing industry. In this event a certain percentage of raw materials consumed in a prior year will be allotted to farm equipment manufacturers. This may possibly be done without quotas being placed on the output of any finished product, each manufacturer being allowed to stretch the allotted volume of raw materials to the fullest extent possible in his various products.

ST. LOUIS GARDENERS.

The Greater St. Louis Association of Gardeners held its annual dinner dance, which commemorated the twenty-fifth anniversary of the association, November 15, at the Crystal Lake Country Club. An attendance of 275 enjoyed the steak dinner, which was followed by a floor show and dancing. George H. Pring, superintendent at the Missouri Botanical Garden, acted as master of ceremonies. William Rebbe is president of this organization, which has a membership of well over 200 gardeners and allied tradesmen.

THE Redwood Empire Nurserymen's Association has been formed at Petaluma, Cal., as a new unit of the California Association of Nurserymen. Officers will be announced later.

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STOCK WANTED

For delivery spring and fall 1942. Quote lowest cash prices.

BB—balled and burlapped; B—balled but not necessarily burlapped; BR—bare root;

RC—rooted cuttings. C—may be collected or nursery-grown; DP—divisions permitted;

Quantity	Variety	Top Size	No. of Canes	
500	Abelia grandiflora	18 to 24 ins.	3	BB
55	Acanthopanax pentaphyllum	18 to 24 ins.	3	BB
870	Acer circinnatum	3 to 5 ft.	1 up	BB-C
30	Esculus hippocastanum	4 to 6 ft., 1/2-in. cal.		BB
100	Ampelopsis quinquefolia	12 to 15 ins.	3	BB
2	Arctostaphylos Uva-ursi	6 to 8 ins.	3	BB-C
600	Azalea mollis	10 to 12 ins.	3	BB
320	Berberis dulcis	8 to 10 ins.	3	BB
250	Berberis verruculosa	12 to 15 ins.	3	BB
230	Betula papyrifera	1/2-in. cal.	1 up	BB
70	Bignonia radicans	15 to 18 ins.	3	BB
60	Caragana arborea	4 to 6 ft.		BB
20	Cephalotaxus Fortunei	30 to 36 ins.	1 up	BB
50	Cornus lutea	2 to 3 ft.		BB
185	Cornus mas	18 to 24 ins.	3	BB
830	Cornus alba sibirica	2 to 4 ft.		BB
130	Cotoneaster Franchetii	2 to 3 ft.	4	BB
100	Cydonia oblonga	8 to 10 ft.		BB
60	Elaeagnus angustifolia	3/4-in. cal.	1	BB
11,500	Evonymus radicans coloratus	3 to 4 ft.	1 up	BB
540	Forsthia suspensa	2 to 3 ft.		BB
15,000	Hedera Helix	RC or DP		BB-C

Quantity	Variety	Top Size	No. of Canes	
15,000	Hypericum calycinum	RC or DP		BB
25	Jasminum officinale	18 to 24 ins.	3	BB
470	Ligustrum lucidum	10 to 12 ins.	3	BB
300	Lonicera fragrantissima	18 to 24 ins.	3	BB
1,620	Mahonia Aquifolium	12 to 15 ins.	3	BB-C
25	Malus ioensis Bechtel's	2 to 3 ft.	1 up	BB
100	Photinia serrulata	3 to 4 ft.		BB
240	Rhus typhina laciniata	2 to 3 ft., 15 ins.	3	BB
100	Robinia Pseudo Acania	4 to 6 ft.		BB
		1/2-in. cal.	1	BB
30	Rosa, Climbing Claudius Pernet	2-yr.		BB
25	Rosa, Climbing Mary Wallace	2-yr.		BB
20	Rosa, Climbing Silver Moon	2-yr.		BB
350	Rosa rugosa, Grootendorst	Pink, 2-yr., field-grown	3	BB
200	Rosa H. rugosa, Evergreen Gem	2-yr., field-grown	3	BB
265	Rosa rugosa, Max Graf	2-yr., field-grown	3	BB
60	Sorbus Aucuparia	2 to 3 ft.	1	BB
120	Tsuga heterophylla	3 to 5 ft.	1	BB-C
950	Vaccinium ovatum	2 to 4 ft.	3	BB-C
60	Viburnum rhytidophyllum	12 to 15 ins.		BB
640	Viburnum Tinus	15 to 18 ins.		BB
2,800	Vinca minor	RC or DP		C

RICHMOND NURSERIES, Richmond Beach, Wash.**SPREADER BRACE ON TREE.**

How the sailors' technique was utilized in restoring the shape of a desirable tree was reported in one of his recent "Talks on Trees" by Dr. E. Porter Felt, of the Bartlett tree research laboratories, Stamford, Conn.

The tree was an elm with a trunk diameter of about fifteen inches. The ice storm had torn off the branches on one side, and the problem was to restore its shape in order to avoid the expense of moving a new tree into a difficult position. The limbs torn from the tree were on the side next a fine residence. The owner objected to guy wires attached to the dwelling or extending over the terrace; hence the unusual treatment.

It happened that the part of the tree remaining had a great many well shaped limbs. The problem was to draw over enough of these limbs without wires in front of or above the house. This was accomplished by pulling the limbs into the desired position by the use of a ship spreader type of bracing. The latter was simply a pair of iron pipes and screw rods about six feet long, attached some fifteen feet above the ground by bolt ends in two large branches. The spreader arm was rigged with a guy wire fastened near the base of the tree and extending up to its tip. Other guys extended up from the spreader arm to points on the limbs which were to be drawn over in order to reshape the tree. The upper guys were fastened to the limbs by eyebolts, and after the branches had been pulled into desired positions, the cables were attached so as to hold them securely, and as a convenience turnbuckles were included in order to facilitate adjustments later.

A view of the tree the following winter showed a satisfactory, well

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shaped top, although an observer would notice the spreader brace with its cables. These are temporary, since in a year or two the limbs would presumably become permanently adjusted to their new position.

FOR the seventh consecutive year the national house and garden exposition, "Chicago's annual home show," will be held at the Coliseum, May 2 to 10. The advisory committee includes William Beaudry for the Midwest Horticultural Society, and Victor E. de St. Aubin for the Illinois Landscape Association.



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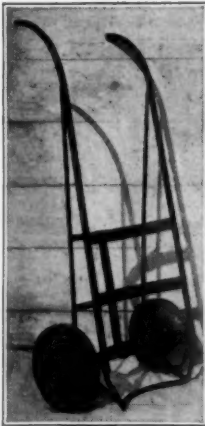
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RHODE ISLAND ARBORETUM.

A state arboretum is to be established in Rhode Island if plans proposed by Ernest K. Thomas, administrator of the office of forests and parks of the state department of agriculture, are consummated. Mr. Thomas is president of the Rhode Island Horticultural Society and for several years was superintendent of parks of Providence.

The proposal is to establish the arboretum at Goddard memorial park, at Potowomut, Warwick, a state-owned recreation center.

The arboretum would be laid out, according to tentative plans which are under consideration by the division of forests and parks, in an area of approximately twenty-seven acres about the old mansion house. It would be composed of ornamental trees and shrubs adapted to Rhode Island's climatic conditions.

"It is not contemplated that this would be an arboretum in the usual sense of the word," explains Mr. Thomas, "because we do not intend to plant a large number of species and varieties, and no attempt will be made to make the collection of ornamental plants complete, but rather to grow a few of the most desirable species."

The administrator points out, for instance, that there are hundreds of varieties of flowering cherries, crabs and hawthorns and there would be little value in endeavoring to get a complete collection of each. Rather, he says, it would be more helpful to have a dozen of the best varieties of each on display, varieties which are adapted to Rhode Island's climate.

Mr. Thomas states that the project has been presented to the members of the Rhode Island Nurserymen's Association, who have thought that it would be a helpful educational project and one to which they would be willing to make contributions. Mr. Thomas explains that if the proposal materializes, the state will have to purchase whatever plants and shrubs it does not receive through donations, although no large sum of money would be involved.

Even though the actual planting of the arboretum cannot be begun until spring, Mr. Thomas says some preliminary and preparatory work may be done at the Goddard park this winter to prepare the planting sites.

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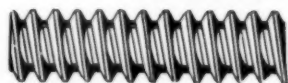
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